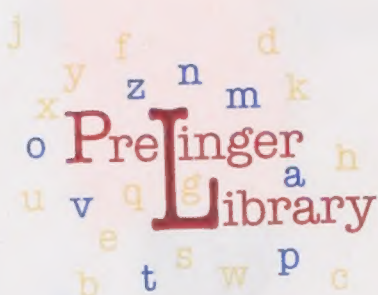




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Applied Science &
Technology Index
1963

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ENGINEERING LIBRARY

Am Oil Chem Soc J—Journal of the American Oil Chemists' Society
Am Perfumer—American Perfumer and Cosmetics
Am Rocket Soc J. See ARS J
Am Scientist—American Scientist
Am Soc C E Proc—Proceedings of the American Society of Civil Engineers
Am Soc Heat Refrig & Air-Cond Eng J. See ASHRAE J
Am Soc Mech Eng Trans. See A S M E Trans
Am Water Works Assn J—Journal American Water Works Association
Anal Chem—Analytical Chemistry
Applications & Ind—Applications and Industry
Arch Forum—Architectural Forum, The Magazine of Building
Arch Rec—Architectural Record
Archives Environmental Health—Archives of Environmental Health
Assn for Computing Mach J—Journal of the Association for Computing Machinery
Astronautics & Aerospace Eng—Astronautics and Aerospace Engineering
Audio—Audio
Audio Eng Soc J—Journal of the Audio Engineering Society
Automation—Automation, the Magazine of Automatic Manufacturing Operations
Automobile Eng—Automobile Engineer
Automotive Ind—Automotive Industries

Bell Lab Rec—Bell Laboratories Record
Bell System Tech J—Bell System Technical Journal
Brit Inst Radio Eng J—Journal of the British Institution of Radio Engineers
Brit Plastics—British Plastics

Can Chem Process—Canadian Chemical Processing
Can J Chem Eng—Canadian Journal of Chemical Engineering
Can Min & Met Bul—Canadian Mining and Metallurgical Bulletin
Cer Ind—Ceramic Industry
Chem & Eng N—Chemical and Engineering News

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Chem Eng—Chemical Engineering
Chem Eng Prog—Chemical Engineering Progress
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Coal Age—Coal Age
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Diesel Equip Supt—Diesel Equipment Superintendent
Domestic Eng—Domestic Engineering
Drug & Cosmetic Ind—Drug and Cosmetic Industry

Economic Geol—Economic Geology and the Bulletin of the Society of Economic Geologists
Elec Com—Electrical Communication
Elec Constr & Maint—Electrical Construction and Maintenance
Elec Eng—Electrical Engineering
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Electro-Tech—Electro-Technology

Electrochem Soc J—Journal of the Electrochemical Society

Electronic Eng—Electronic Engineering
Electronic Ind—Electronic Industries
Electronic Tech—Electronic Technology
Electronics—Electronics

Eng & Instrumentation. See J Res Nat Bur Stand

Eng & Min J—Engineering and Mining Journal
Eng J—Engineering Journal

Eng N—Engineering News-Record

Engineer—Engineer
Engineering—Engineering

Food Eng—Food Engineering

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Foundry—Foundry

Franklin Inst J—Journal of the Franklin Institute

Fundamentals. See Ind & Eng Chem

Gas—Gas

Gas Age—Gas Age

Geol Soc Bul—Bulletin of the Geological Society of America

Geophysics—Geophysics

Glass Ind—Glass Industry

Heating-Piping—Heating, Piping and Air Conditioning

Hydraulics & Pneumatics—Hydraulics and Pneumatics

Hydrocarbon Process & Pet Refiner—Hydrocarbon Processing and Petroleum Refiner

IEEE Proc—Proceedings of the IEEE

IEEE Trans Applications & Ind—IEEE Transactions on Applications and Industry

IEEE Trans Com & Electronics—IEEE Transactions on Communication and Electronics

IEEE Trans Power Apparatus & Systems—IEEE Transactions on Power Apparatus and Systems

ISA J—ISA Journal

Illum Eng—Illuminating Engineering, The Journal of the Illuminating Engineering Society

ABBREVIATIONS OF PERIODICALS INDEXED

- Ind & Eng Chem**—Industrial and Engineering Chemistry
Ind Chem—Industrial Chemist
Ind Electronics—Industrial Electronics
Ind Finishing—Industrial Finishing
Ind Med—Industrial Medicine and Surgery
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Inst E E Proc—Proceedings of the Institution of Electrical Engineers
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Iron & Steel Inst J—Journal of the Iron and Steel Institute

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J Agri & Food Chem—Journal of Agricultural and Food Chemistry
J Ap Chem—Journal of Applied Chemistry
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J Ap Phys—Journal of Applied Physics
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J Math & Phys—Journal of Mathematics and Physics
J Metals—Journal of Metals
J Nutrition—Journal of Nutrition
J Pet Tech—Journal of Petroleum Technology
J Res Nat Bur Stand—Journal of Research of the National Bureau of Standards
J Sci Instr—Journal of Scientific Instruments

Light Metal Age—Light Metal Age
Lub Eng—Lubrication Engineering

Mach—Machinery
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Mag of Stand—Magazine of Standards
Manuf Chem—Manufacturing Chemist
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Mod Textiles Mag—Modern Textiles Magazine

Naval Eng J—Naval Engineers Journal
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Prog Arch—Progressive Architecture
Pub Roads—Public Roads
Pub Works—Public Works

Q S T—QST

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Radio Corp Am R. See **RCA R**
Radio-Electronics—Radio-Electronics
Radio Propagation. See **J Res Nat Bur Stand**
Res/Develop—Research/Development
Research—Research, Applied in Industry
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Rock Prod—Rock Products
Roy Aeronautical Soc J—Journal of the Royal Aeronautical Society
Rubber Age—Rubber Age
Rubber Chem & Tech—Rubber Chemistry and Technology
Rubber World—Rubber World

S A E J—SAE Journal
SMPTE J—Journal of the Society of Motion Picture and Television Engineers
Safety Maint—Safety Maintenance
Sci Am—Scientific American
Soap & Chem Spec—Soap and Chemical Specialties
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Soc Dyers & Col J—Journal of the Society of Dyers and Colourists
Soc Motion Picture & Tv Eng J. See **SMPTE J**
Sound—Sound; Its Uses and Control
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Steel—Steel

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Textile Ind—Textile Industries
Textile Res J—Textile Research Journal
Textile World—Textile World
Tool & Manuf Eng—Tool and Manufacturing Engineer
Traffic Q—Traffic Quarterly

WPCF J—Journal of the Water Pollution Control Federation
Water & Sewage Works—Water & Sewage Works
Water Works Eng—Water Works Engineering
Welding Eng—Welding Engineer
Welding J—Welding Journal
Westinghouse Eng—Westinghouse Engineer
Wire & Wire Prod—Wire and Wire Products
Wireless World—Wireless World

APPLIED SCIENCE &
TECHNOLOGY INDEX

1963

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NEW YORK

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EDITED BY
ELSA TOOM

INDEXERS
RUDOLPH G. GIGLIO, HEATHER WALTERS

MANAGING EDITOR
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E. T.

Abbreviations of Periodicals Indexed

For full information consult pages ix to xii

A I A A J—A I A A Journal
 A I Ch E J—Journal of the American Institute of Chemical Engineers
 ARS J—ARS Journal
 ASHRAE J—ASHRAE Journal
 A S M E Trans—Transactions of the American Society of Mechanical Engineers
 Aerospace Eng—Aerospace Engineering
 Air Cond Heat & Ven—Air Conditioning Heating and Ventilating
 Aircraft Eng—Aircraft Engineering
 Am Assn Pet Geologists Bul—Bulletin of the American Association of Petroleum Geologists
 Am Cer Soc Bul—Bulletin of the American Ceramic Society
 Am Cer Soc J—Journal of the American Ceramic Society
 Am Chem Soc J—Journal of the American Chemical Society
 Am Concrete Inst J—Journal of the American Concrete Institute
 Am Dyestuff Rep—American Dyestuff Reporter
 Am Gas Assn Mo—American Gas Association Monthly
 Am Inst Chem Eng J. See A I Ch E J
 Am J Clinical Nutrition—American Journal of Clinical Nutrition
 Am J Phys—American Journal of Physics
 Am J Pub Health—American Journal of Public Health and the Nation's Health
 Am Mach/Metalworking Manuf—American Machinist/Metalworking Manufacturing
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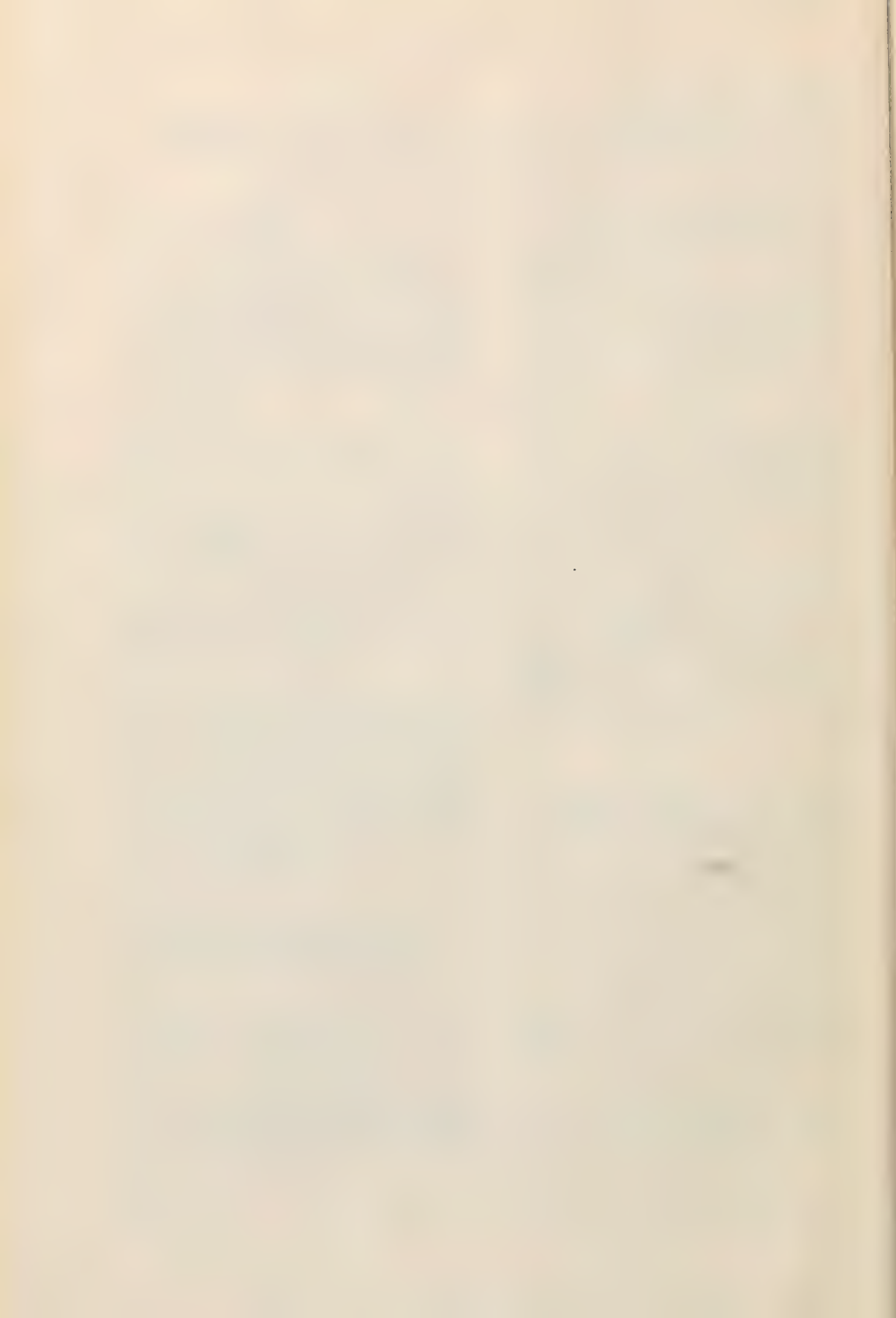
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 Water & Sewage Works—Water & Sewage Works
 Water Works Eng—Water Works Engineering
 Welding Eng—Welding Engineer
 Welding J—Welding Journal
 Westinghouse Eng—Westinghouse Engineer
 Wire & Wire Prod—Wire and Wire Products
 Wireless World—Wireless World



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- AIAA Journal.** \$30 m American Institute of Aeronautics and Astronautics, Inc. 1290 Avenue of the Americas, New York
Combined with ARS Journal and Journal of the Aerospace Sciences; changed January, 1963
- A I Ch E Journal.** \$25 bi-m American Institute of Chemical Engineers, 345 E 47th St, New York 17
- ARS Journal.** \$18 m American Rocket Society, Inc. and American Interplanetary Society, 500 Fifth Av, New York 36
Combined with Journal of the Aerospace Sciences with new name, AIAA Journal; changed January, 1963
- ASHRAE Journal.** \$5 m American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. 345 E 47th St, New York 17
- ASME Transactions.** \$15 American society of Mechanical Engineers, 345 E 47th St, New York 17
Published in 5 parts: ser A. Journal of Engineering for Power, q (Ja); ser B. Journal of Engineering for Industry, q (F); ser C. Journal of Heat Transfer, q (F); ser D. Journal of Basic Engineering, q (Mr); ser E. Journal of Applied Mechanics, q (Mr)
\$7.50 to members and affiliates
- Aerospace Engineering.** \$10 m Institute of the Aeronautical Sciences, Inc, 2 E 64th St, New York 21
Name changed to Astronautics and Aerospace Engineering February, 1963
- Air Conditioning, Heating and Ventilating.** \$5 m Industrial Press, 93 Worth St, New York 13
- Aircraft Engineering.** 48s; U.S. \$7.50; Canada \$7.50 m Eunnhill Publications, Ltd. 12 Bloomsbury Square, London, W.C. 1
- American Association of Petroleum Geologists Bulletin.** \$30 m American Association of Petroleum Geologists, Inc, Box 979, Tulsa 1, Okla.
- American Ceramic Society Bulletin.** \$6 m American Ceramic Society, 4055 N High St, Columbus 14, Ohio
- American Ceramic Society Journal; Ceramic Abstracts.** \$15 including Ceramic Bulletin m American Ceramic Society, 4055 N High St, Columbus 14, Ohio
- American Chemical Society Journal.** \$30 s-m American Chemical Society, 1155 16th St, N.W. Washington 6, D.C.
- American Concrete Institute Journal.** \$18 m American Concrete Institute, P.O. Box 4754 Redford Station, Detroit 19, Mich.
- American Dyestuff Reporter.** \$7.50 bi-w Howes Pub. Co, Inc. 44 E 23d St, New York 10
- American Gas Association Monthly.** \$5 m (bi-m JI-Ag) American Gas Assn. Inc, 605 Third Av, New York 16
- American Institute of Chemical Engineers Journal.** See A I Ch E Journal
- American Journal of Clinical Nutrition.** \$15 m The American Journal of Clinical Nutrition, Inc. 455 Lexington Av, New York 17
- American Journal of Physics.** \$10 m American Institute of Physics, Inc, 335 E 45th St, New York 17
- American Journal of Public Health and the Nation's Health.** \$15 m American Public Health Association, Inc, 1790 Broadway, New York 19
- American Machinist/Metalworking Manufacturing.** \$3 bi-w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
- American Mineralogist. Journal of the Mineralogical Society of America.** bi-m U.S. Geological Survey, Washington 25, D.C.
- American Oil Chemists' Society Journal.** \$8 m American Oil Chemists' Society, 35 E Wacker Drive, Chicago 1
- American Perfumer and Cosmetics.** \$5 m Alured Pub. Corp, 1031 South Blvd, Oak Park, Ill.
October is Documentary Edition. \$5
- American Rocket Society Journal.** See ARS Journal
- American Scientist.** \$3.50 q Sigma Xi, 51 Prospect St, New Haven 11, Conn.
- American Society of Civil Engineers Proceedings.** m American Society of Civil Engineers, 345 E 47th St, New York 17
- American Society of Heating, Refrigerating and Air-Conditioning Engineers Journal.** See ASHRAE Journal
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- American Water Works Association Journal.** m American Water Works Assn, Inc, 2 Park Av, New York 16
- Analytical Chemistry.** \$5 m American Chemical Society, 1155 16th St, N.W. Washington 6, D.C.
- Applications and Industry.** \$10 bi-m Institute of Electrical and Electronics Engineers, Inc, Box A, Lenox Hill Station, New York 21
Name changed to IEEE Transactions on Applications and Industry March, 1963
- Architectural Forum. The Magazine of Building.** \$7 m Time, Inc, 540 N. Michigan Av, Chicago 11, Ill.
- Architectural Record.** \$5.50 m McGraw-Hill, Inc, 330 W 42d St, New York 36
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- Archives of Environmental Health.** \$12 m American Medical Association, 535 N Dearborn St, Chicago 10
- Association for Computing Machinery Journal.** \$15 q Association for Computing Machinery, 211 E 43d St, New York 17
- Astronautics and Aerospace Engineering.** \$10 m American Institute of Aeronautics and Astronautics, 500 Fifth Av, New York 36
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- Audio.** \$5 m Radio Magazines, Inc, 204 Front St, Square Station, New York 10
- Audio Engineering Society Journal.** \$11 q Audio Engineering Society, P.O. Box 383, Madison Square Station, New York 10
- Automation: The Magazine for Manufacturing Systems Engineering.** \$10 m Penton Pub. Co, Penton Bldg, Cleveland 13
- Automobile Engineer.** \$4; U.S. \$12; Canada \$12 m Iliffe Production Publications, Ltd, Dorset House, Stamford St, London, S.E. 1
Extra number published in May
- Automotive Industries.** \$10 s-m Chilton Co, Chestnut & 56th Sts, Philadelphia 39
- Bell Laboratories Record.** \$2 m Bell Telephone Laboratories, Inc, 463 West St, New York 14
- Bell System Technical Journal.** \$5 bi-m American Telephone and Telegraph Co, 195 Broadway, New York 7
- British Institution of Radio Engineers Journal.** \$5 10s m British Institution of Radio Engineers, 9 Bedford Square, London, W.C. 1
Name changed to Radio and Electronic Engineer January, 1963
- British Plastics.** £3 10s; U.S. \$11.50; Canada \$11.50 m Iliffe Industrial Publications, Ltd, Dorset House, Stamford St, London, S.E. 1
- Canadian Chemical Processing.** \$6; U.S. \$10 m Southam-Maclean Publications, Ltd, 1450 Don Mills Rd, Don Mills, Ontario, Canada
- Canadian Journal of Chemical Engineering.** \$6; U.S. \$8.50 bi-m Chemical Institute of Canada, 48 Rideau St, Ottawa 2, Ont.
- Canadian Mining and Metallurgical Bulletin.** \$10; U.S. \$12 m Canadian Institute of Mining and Metallurgy, 906 Drummond Bldg, Montreal, Que.
- Ceramic Industry.** \$5 m Cahners Pub. Co, Inc, 5 So. Wabash Av, Chicago 3
- Chemical & Engineering News.** \$6 w American Chemical Society, 1155 16th St, N.W. Washington 6, D.C.
- Chemical Engineering.** \$3 bi-w McGraw-Hill, Inc, 330 W 42d St, New York 36
- Chemical Engineering Progress.** \$25 m American Institute of Chemical Engineers, 345 E 47th St, New York 17
- Chemistry and Industry.** \$5 w Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1
- Civil Engineering, the Magazine of Engineered Construction.** \$5 m American Society of Civil Engineers, 345 E 47th St, New York 17
- Coal Age.** \$3 m McGraw-Hill, Inc, 330 W 42d St, New York 36
- Combustion.** \$4 m Combustion Pub. Co, Inc, 305 Madison Av, New York 17

- Communication and Electronics.** \$10 bi-m Institute of Electrical and Electronics Engineers, Inc. Box A, Lenox Hill Station, New York 21
Name changed to IEEE Transactions on Communication and Electronics March, 1963
- Compressed Air Magazine.** \$5 m Compressed Air Magazine Co. 942 Memorial Parkway, Phillipsburg, N.J.
- Control Engineering.** \$3 m McGraw-Hill, Inc. 330 W 42d St. New York 36
- Corrosion.** \$10 m National Association of Corrosion Engineers, Inc. 980 M & M Bldg. Houston 2, Tex.
- Diesel Equipment Superintendent.** \$4 m Diesel Publications, Inc. 80 Lincoln Av. Stamford, Conn.
- Domestic Engineering.** \$5 m Medalist Publications Inc. 1801 Prairie Av. Chicago 16
- Drug and Cosmetic Industry.** \$3 m Drug Markets, Inc. 101 W 31st St. New York 1
- Economic Geology and the Bulletin of the Society of Economic Geologists.** \$8.50 s-q Economic Geology Pub. Co. M. M. Leighton. Business Mgr. Urbana, Ill.
- Electrical Communication.** \$2 q International Telephone and Telegraph Corp. 320 Park Av. New York 22
- Electrical Construction and Maintenance.** \$13 m McGraw-Hill, Inc. 330 W 42d St. New York 36
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- Electrical Engineering.** \$12 m Institute of Electrical and Electronics Engineers, Box A, Lenox Hill Station, New York 21
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- Electrical World.** \$8 w McGraw-Hill, Inc. 330 W 42d St. New York 36
- Electro-Technology.** \$15 m Conover-Mast Publications, Inc. 205 E 42d St. New York 17
- Electrochemical Society Journal.** \$24 m Electrochemical Society. 30 E 42d St. New York 17
- Electronic Engineering.** £1 16s; U.S. \$5; Canada \$5 m Morgan Brothers, Ltd. 28 Essex St. Strand, London, W.C. 2
- Electronic Industries.** \$10 m Chilton Co. Chestnut & 56th Sts. Philadelphia 39
- Electronic Technology.** £3 7s; U.S. and Canada \$9.50 m Iliffe Electrical Publications Ltd. Dorset House, Stamford St. London, S.E. 1
Name changed to Industrial Electronics October, 1962
- Electronics.** \$6 w McGraw-Hill Pub. Co. Inc. 330 W 42d St. New York 36
Extra number, Buyers' Guide July 25
- Engineer.** £5 10s; Canadian subs £5 5s w Morgan Brothers, Ltd. 28 Essex St. Strand, London, W.C. 2
- Engineering.** £5 10s; Canadian subs £5 5s w Engineering Ltd. 36 Bedford St. London, W.C. 2
- Engineering and Instrumentation.** See Journal of Research of the National Bureau of Standards
- Engineering and Mining Journal.** \$4 m McGraw-Hill, Inc. 330 W 42d St. New York 36
- Engineering Journal.** \$6 m Engineering Institute of Canada, 2050 Mansfield St. Montreal 2, Que.
- Engineering News-Record.** \$6 w McGraw-Hill, Inc. 330 W 42d St. New York 36
- Food Engineering.** \$2 m Chilton Co. Chestnut & 56th Sts. Philadelphia 39
- Food Technology.** \$8.50 m Institute of Food Technologists, 176 West Adams St. Chicago 3
- Foundry.** \$10 m Penton Pub. Co. Penton Bldg. Cleveland 13
- Franklin Institute Journal.** \$20 m Franklin Institute of the State of Pennsylvania, Benjamin Franklin Parkway at 20th St. Philadelphia 3
- Fundamentals.** See Industrial and Engineering Chemistry
- Gas.** \$15 m Chilton Co. 56th & Chestnut Sts. Philadelphia 39
- Gas Age.** \$5 m Moore Pub. Co. Inc. Ojibway Building, Duluth 2, Minnesota
Changed to monthly beginning October, 1962
- Geological Society of America Bulletin.** \$25 m Geological Society of America, 231 E 46th St. New York
- Geophysics.** \$10 bi-m Society of Exploration Geophysicists, Howard R. Breck, Business Manager, Shell Bldg. Tulsa 19, Okla.
- Glass Industry.** \$6 m The Ogden Group, Reuben H. Donnelley Corp. 466 Lexington Av. New York 17
- Heating, Piping and Air Conditioning.** \$5 m Keeney Pub. Co. 6 N Michigan Av. Chicago 2
- Hydraulics and Pneumatics.** \$8.50 m Industrial Pub. Corp. 812 Huron Rd. Cleveland 15
- Hydrocarbon Processing and Petroleum Refiner.** \$3 m Gulf Pub. Co. P.O. Box 2608, Houston 1, Tex.
- IEEE Proceedings.** \$22 m Institute of Electrical and Electronics Engineers, Inc. Box A, Lenox Hill Station, New York 21
Formerly Institute of Radio Engineers Proceedings; changed January, 1963
- IEEE Transactions on Applications and Industry.** \$17 bi-m Institute of Electrical and Electronics Engineers, Inc. Box A, Lenox Hill Station, New York 21
Formerly Applications and Industry; changed March, 1963
- IEEE Transactions on Communication and Electronics.** \$10 bi-m Institute of Electrical and Electronics Engineers, Inc. Box A, Lenox Hill Station, New York 21
Formerly Communication and Electronics; changed March, 1963
- IEEE Transactions on Power Apparatus and Systems.** \$10 bi-m Institute of Electrical and Electronics Engineers, Inc. Box A, Lenox Hill Station, New York 21
Formerly Power Apparatus and Systems; changed April, 1963
- ISA Journal.** \$4 m Instrument Society of America, Penn-Sheraton Hotel, 530 William Penn Pl. Pittsburgh, 19
- Illuminating Engineering, the Journal of the Illuminating Engineering Society.** \$18 m Illuminating Engineering Society, 345 E 47th St. New York 17
- Industrial and Engineering Chemistry.** m American Chemical Society, 1155 16th St. N.W. Washington 6, D.C.
Sold only in combination with one or more I&EC quarterlies: Process Design and Development (Ja); Fundamentals (F); Product Research and Development (Mr) One quarterly \$3; two \$5; three \$7. Subscriptions must begin with January and end with December.
- Industrial Chemist.** 50s m Tothill Press, Ltd. 33 Tothill St. Westminster, London, S.W. 1
- Industrial Electronics.** £3; U.S. and Canada \$10 m Iliffe Electrical Publications, Ltd. Dorset House, Stamford St. London, S.E. 1
Formerly Electronic Technology; changed October, 1962
- Industrial Finishing.** \$3 m Practical Publications, Inc. 1142 N. Meridian St. Indianapolis 4
- Industrial Medicine and Surgery.** \$6 m Industrial Medicine Pub. Co. P.O. Box 306, Taniami Station, Miami 44, Fla.
- Industrial Photography.** \$6 m United Business Publications, Inc. 200 Madison Av. New York 16
- Industrial Quality Control.** \$9 m American Society for Quality Control, Inc. 161 W Wisconsin Av. Milwaukee 3
- Inland Printer/American Lithographer.** \$5 m Maclean-Hunter Pub. Corp. 79 W Monroe St. Chicago 3
- Institute of Metals Journal.** m Institute of Metals, 17 Belgrave Square, London, S.W. 1
- Institute of Petroleum Journal.** £6 6s m Institute of Petroleum, 61 New Cavendish St. London, W. 1
- Institute of Radio Engineers Proceedings.** \$18 m Institute of Radio Engineers, Inc. 1 E 70th St. New York 21
Name changed to IEEE Proceedings January, 1963
- Institution of Electrical Engineers Proceedings.** £10 m The Institution, Savoy Place, London, W.C. 2
Published in 2 parts; pt A. Power Engineering, bi-m (F); pt B. Electronic and Communication Engineering (including Radio Engineering) bi-m (Ja)
(Changed to monthly beginning January, 1963)
- Institution of Mechanical Engineers Proceedings.** separate papers Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W. 1
- Instrument Society of America Journal.** See ISA Journal
- Instruments and Control Systems.** \$4 m Instruments Pub. Co. Inc. 845 Ridge Av. Pittsburgh 12

- Iron Age.** \$25 w Chilton Co. Inc. Chestnut & 56th Sts. Philadelphia 39
- Iron and Steel Engineer.** \$7.50 m Association of Iron and Steel Engineers, 1010 Empire Bldg. Pittsburgh 22
- Iron and Steel Institute Journal.** £18 m Iron and Steel Institute, 4 Grosvenor Gardens, London, S.W. 1
- Journal of Agricultural and Food Chemistry.** \$20 bi-m American Chemical Society, 1155 16th St. N.W. Washington 6, D.C.
- Journal of Applied Chemistry.** £15 m Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1
- Journal of Applied Mechanics.** See ASME Transactions
- Journal of Applied Physics.** \$20 m American Institute of Physics, 335 E 45th St, New York 17
- \$15 to members and associate members of the American Institute of Physics
- Journal of Basic Engineering.** See ASME Transactions
- Journal of Colloid Science.** \$28 9 times a yr Academic Press Inc. 111 5th Av, New York 3
- Journal of Engineering for Industry.** See ASME Transactions
- Journal of Engineering for Power.** See ASME Transactions
- Journal of Geology.** \$14 bi-m University of Chicago Press, 5750 Ellis Av, Chicago 37
- Journal of Heat Transfer.** See ASME Transactions
- Journal of Mathematics and Physics.** \$8 q Massachusetts Institute of Technology, Cambridge 39, Mass.
- Journal of Metals.** \$10 m American Institute of Mining, Metallurgical and Petroleum Engineers, Inc. 345 E 47th St, New York 17
- Journal of Nutrition.** \$22.50 m Wistar Institute of Anatomy and Biology, 36th St at Spruce, Philadelphia 4
- Journal of Petroleum Technology.** \$8 m Society of Petroleum Engineers of AIME, 6300 North Central Expressway, Dallas 6
- Journal of Research of the National Bureau of Standards.** Superintendent of Documents, Washington 25, D.C.
- Published in 4 sections: A. Physics and Chemistry. \$4 bi-m; B. Mathematics and Mathematical Physics \$2.25 q; C. Engineering and Instrumentation \$2.25 q; D. Radio Propagation \$4 bi-m
- Journal of Scientific Instruments.** £8 m Institute of Physics and the Physical Society, 47 Belgrave Square, London, S.W. 1
- Journal of the Aerospace Sciences.** \$20 m Institute of the Aeronautical Sciences, Inc. 2 E 64th St, New York 21
- Combined with ARS Journal with new name, AIAA Journal; changed January, 1963
- Light Metal Age.** \$6 bi-m Roy Fellom, Jr. 693 Mission St. San Francisco 5
- Lubrication Engineering.** \$6 m American Society of Lubrication Engineers, 838 Busse Highway, Park Ridge, Ill.
- Machine Design.** \$10 bi-w Penton Pub. Co. Penton Bldg. Cleveland 13
- Machinery.** \$10 m Industrial Press, 93 Worth St, New York 13
- Magazine of Standards.** \$7 m American Standards Association, Inc. 10 E 40th St, New York 16
- Manufacturing Chemist and Aerosol News.** £3; U.S. \$9 m Gramplan Press, Ltd. The Tower, 229-243 Shepherds Bush Road, Hammersmith, London, W. 6
- Marine Engineering/Log.** \$4 m (s-m in June) Simmons-Boardman Pub. Corp. 30 Church St, New York 7
- Materials in Design Engineering.** \$3 m Reinhold Pub. Corp. 430 Park Av, New York 22
- Extra number published in Mid-October
- Materials Research and Standards.** \$5 m American Society for Testing Materials, 1916 Race St. Philadelphia 3
- Mathematics and Mathematical Physics.** See Journal of Research of the National Bureau of Standards
- Mechanical Engineering.** \$7 m American Society of Mechanical Engineers, 345 E 47th St, New York 17
- Metal Finishing.** \$5 m Metals and Plastics Publications, Inc. 99 Kinderkamack Road, Westwood, N.J.
- Metal Progress.** \$9 m American Society for Metals, Metals Park, Ohio
- Metallurgia, the British Journal of Metals.** 30s m Kennedy Press, Ltd. 31 King St. W. Manchester 3
- Mill & Factory.** \$10 m Conover-Mast Publications, Inc. 205 E 42d St, New York 17
- Mining Congress Journal.** \$3 m American Mining Congress, Ring Bldg. Washington 6, D.C.
- Mining Engineering.** \$10 m American Institute of Mining, Metallurgical and Petroleum Engineers, Inc. 345 E 47th St, New York 17
- Modern Materials Handling.** \$8 m Modern Materials Handling, 221 Columbus Av, Boston 16
- Modern Metals.** \$10 m Modern Metals Pub. Co. 435 N. Michigan Av, Chicago 11
- Modern Photography.** \$5 m Modern Photography, 165 W 46th St, New York
- Modern Plastics.** \$8 m Breskin Publications, Inc. 770 Lexington Av, New York 21
- Modern Textiles Magazine.** \$5 m Rayon Pub. Corp. 303 Fifth Av, New York 16
- Extra number, Third Annual Conference of AATT
- Naval Engineers Journal.** \$20 bi-m American Society of Naval Engineers, Inc. 1012 14th St. N.W. Washington 5, D.C.
- Nucleonics.** \$8 m McGraw-Hill Pub. Co. Inc. 330 W 42d St, New York 36
- Oil and Gas Journal.** \$6 w Petroleum Pub. Co. 211 South Cheyenne, Tulsa, Okla.
- Operations Research.** \$10 bi-m Operations Research Society of America, Mt Royal and Guilford Aves. Baltimore 2
- Paper Industry.** \$3 m Paper Industry Management Assn. 10 N. Clark St, Chicago 60602
- Petroleum Management.** \$6 m (s-m J1) Petroleum Engineer Pub. Co. 800 Davis Bldg. Dallas 2
- Physics and Chemistry.** See Journal of Research of the National Bureau of Standards
- Physics Today.** \$4 m American Institute of Physics, 335 E 45th St, New York 17
- Pit and Quarry.** \$7 m Pit and Quarry Publications, Inc. 431 S Dearborn St, Chicago 5
- Plant Engineering.** \$10 m Technical Pub. Co. 308 E James St, Barrington, Ill.
- Plastics Technology.** \$7 m Plastics Technology Magazine, 630 Third Av, New York 17
- Plastics World.** \$8 m Cleworth Pub. Co. Inc. 1 River Road, Cos Cob, Conn.
- Plating.** \$5 m American Electroplaters' Society, Inc. 443-445 Broad St, Newark N.J.
- Power.** \$3 m McGraw-Hill, Inc. 330 W 42d St, New York 36
- Power Apparatus and Systems.** \$10 bi-m Institute of Electrical and Electronics Engineers, Inc. Box A, Lenox Hill Station, New York 21
- Name changed to IEEE Transactions on Power Apparatus and Systems April, 1963
- Power Engineering.** \$10 m Power Engineering, 308 E James St, Barrington, Ill.
- Process Design and Development.** See Industrial and Engineering Chemistry
- Product Engineering.** \$3 bi-w McGraw-Hill, Inc. 330 W 42d St, New York 36
- Product Research and Development.** See Industrial and Engineering Chemistry
- Progressive Architecture.** \$20 m Reinhold Pub. Corp. 430 Park Av, New York 22
- Public Roads.** \$1 bi-m Superintendent of Documents, Washington 25, D.C.
- Public Works.** \$5 m Public Works Journal Corp. 200 S Broad St, Ridgewood, N.J.
- QST.** \$5 m American Radio Relay League, Inc. 225 Main St, Newington, Conn.
- RCA Review.** \$2 q Radio Corporation of America, RCA Laboratories Division, Princeton N.J.
- Radio and Electronic Engineer.** £5 10s m Institution of Electronic and Radio Engineers. 9 Bedford Square, London, W.C. 1
- Formerly British Institution of Radio Engineers Journal; changed January, 1963
- Radio Corporation of America Review.** See RCA Review
- Radio-Electronics.** \$5 m Gernsback Publications, Inc. 154 W 14th St, New York 11
- Radio Propagation.** See Journal of Research of the National Bureau of Standards
- Research, Applied in Industry.** 65s; U.S. \$10.75 m Butterworths Publications, Ltd. 88 Kingsway, London, W.C. 2
- Suspended publication, December, 1962
- Research/Development.** m F. D. Thompson Publications, Inc. 201 N. Wells St, Chicago 6

- Review of Scientific Instruments**, \$11 m American Institute of Physics, 335 E 45th St, New York 17
- \$11 to members of scientific societies
- Roads and Streets**, \$6 m The Gillette Group, Magazine Pub. Div. The Reuben H. Donnelley Corp, 466 Lexington Av, New York 17
- Rock Products**, \$3 m Maclean-Hunter Pub. Corp, 79 W Monroe St, Chicago 3
- Royal Aeronautical Society Journal**, £10 10s m Royal Aeronautical Society, 4 Hamilton Place, London W. 1
- Rubber Age**, \$5 m Palmerton Pub. Co, Inc, 101 W 31st St, New York 1
- Rubber Chemistry and Technology**, \$9.50 5 times a yr American Chemical Society, Division of Rubber Chemistry, Prince and Lemon Sts, Lancaster, Pa.
- Rubber World**, \$7 m Bill Brothers Pub. Corp, 630 3d Av, New York 17
- SAE Journal**, \$12 m Society of Automotive Engineers, Inc, 485 Lexington Av, New York 17
- SMPTE Journal**, \$16 m Society of Motion Picture and Television Engineers, 9 E 41st St, New York
- Safety Maintenance**, \$4 m Alfred M. Best Co, Inc, 75 Fulton St, New York 38
- Scientific American**, \$6 m Scientific American, Inc, 415 Madison Av, New York 17
- Soap and Chemical Specialties**, \$4 m MacNair-Dorland Co, Inc, 254 W 31st St, New York 1
- Soap Blue Book is extra number
- Society of Automotive Engineers Journal**. See SAE Journal
- Society of Dyers and Colourists Journal**, £7 m Society of Dyers and Colourists, Dean House, 19 Piccadilly, Bradford 1, Yorkshire, England
- Society of Motion Picture and Television Engineers Journal**. See SMPTE Journal
- Sound: Its Uses and Control**, \$8 bi-m Sound, 335 E 45th St, New York 17
- Space/Aeronautics**, \$15 m Conover-Mast Publications, Inc, 205 E 42d St, New York 17
- Extra number. Research and Development Technical Handbook July
- Steel**, \$25 w Penton Pub. Co, Penton Bldg, Cleveland 13
- Tappi**, m Technical Association of the Pulp and Paper Industry, 360 Lexington Av, New York 17
- Technical Association of the Pulp and Paper Industry**. See Tappi
- Textile Industries**, \$2 m W. R. C. Smith Pub. Co, 1760 Peachtree Rd, N.W., Atlanta 9
- Extra number published in Mid-September
- Textile Research Journal**, \$25 m Textile Research Institute, Inc, Publications Department, P.O. Box 625, Princeton, N.J.
- Textile World**, \$2 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
- Tool and Manufacturing Engineer**, \$6 m American Society of Tool and Manufacturing Engineers, 10700 Puritan Av, Detroit 38
- Traffic Quarterly**, q Eno Foundation for Highway Traffic Control, Inc, Saugatuck, Conn.
- Price on request
- Water & Sewage Works**, \$5 m Scranton Pub. Co, Inc, 35 E. Wacker Drive, Chicago 1
- Two numbers published in October, included in annual subscription
- Water Pollution Control Federation Journal**, \$10 m Water Pollution Control Federation, 4435 Wisconsin Av, N.W., Washington 16, D.C.
- Water Works Engineering**, \$5 m Water Works Engineering, 466 Lexington Av, New York 17
- Welding Engineer**, \$3 m Welding Engineer Publications, Inc, P.O. Box 28, Morton Grove, Ill.
- Extra number published in Mid-June
- Welding Journal**, \$8 m American Welding Society, 345 E 47th St, New York 17
- Westinghouse Engineer**, \$2.50 bi-m Westinghouse Engineer, P.O. Box 2278, 3 Gateway Center, Pittsburgh 30
- Wire and Wire Products**, \$3 m Quinn-Brown Pub. Corp, 299 Main St, Stamford, Conn.
- Wireless World**, £2 2s; U.S. \$6.50 Canada \$6.50 m Iliffe Electrical Publications, Ltd, Dorset House, Stamford St, London, S.E. 1

Key to General Abbreviations

+	continued on later pages of the issue	Jl	July
abr	abridged	Mr	March
Ag	August	My	May
Ap	April	N	November
arch	architect	n s	new series
bibliog	bibliography	no	number
comp	compiled or compiler	O	October
cond	condensed	p	page
cont	continued	pl	plate
D	December	por	portrait
diag	diagram	pseud	pseudonym
ed	edited or edition or editor	pt	part
F	February	rev	revised
il	illustrations	S	September
inc	incorporated	sup	supplement
Ja	January	tr	translated or translation or translator
Je	June	v	volume
		yrbk	yearbook

Sample entry: ELECTRIC lamps, Fluorescent
840-cycle economy; analyses of two high-
frequency fluorescent lighting installations.
T. E. Sparling and J. J. Silvers. il diags
Elec Constr & Maint 62:57-61+ Ja '63

Explanation: An illustrated article with diagrams, on the
subject ELECTRIC lamps, Fluorescent
entitled "840-cycle economy; analyses of
two high-frequency fluorescent lighting
installations," by T. E. Sparling and J. J.
Silvers, will be found in volume 62 of Elec-
trical Construction and Maintenance, page
57-61 (continued on later pages of the same
issue) the January 1963 number

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ABS (alkyl benzenesulfonate). See Benzene-sulfonates

ACTH

ACTH molecule. C. H. Li. *il diags Sci Am* 209:46-53 JI '63

Entire 39-unit ACTH molecule synthesized. *Chem & Eng N* 41:44-5 Ag 5 '63

Studies on polypeptides. K. Hofmann and others. *bibliog il Am Chem Soc J* 84:4470-86 D 5 '62

Studies on polypeptides; synthesis and biological evaluation of a tricosapeptide possessing essentially the full biological activity of ACTH. K. Hofmann and others. *bibliog Am Chem Soc J* 84:4475-80 D 5 '62

Studies on polypeptides; the adrenocorticotrophic potency of an eicosapeptide amide corresponding to the N-terminal portion of the ACTH molecule; contribution to the relation between peptide chain-length and biological activity. K. Hofmann and others. *bibliog il Am Chem Soc J* 84:4481-6 D 5 '62

Synthesis of a biologically active pentadecapeptide corresponding to an altered sequence in the adrenocorticotropin (ACTH) structure. C. H. Li and others. *bibliog Am Chem Soc J* 85:1895-6 Je 20 '63

ADS. See Association of Diesel specialists

AALTO, Alvar

Aalto's recent work in West Germany. *por Arch Forum* 118:120-5 Mr '63

Alvar Aalto today. *por Arch Rec* 133:135-50 Ap '63

ABBREVIATIONS

Abbreviations for scientific and engineering terms. *J Pet Tech* 14:1352 D '62

See also

Symbols

ABERRATION (optics)

Measurement of longitudinal spherical aberration in the extra-axial region of lenses. F. E. Washer and W. R. Darling. *il diags J Res Nat Bur Stand* 66C:185-95 JI '62

ABIETIC acid

Stereospecific syntheses of the isomeric deisopropyldehydroabiatic acids. S. N. Mahapatra and R. M. Dodson. *bibliog diags Chem & Ind* p253-4 F 9 '63

ABILITY

See also

Creative ability

ABILITY tests

Doubtful methods in personnel appraisal. P. Moon. *bibliog il Eng J* 46:42-6 S '63

How aptitude testing helps you when you hire. S. M. Eurt. *Inland Ptr/Am Lithogr* 152:49-50 O '63

Inside look at psychological testing. J. R. Conley. *Chem Eng* 70:230+ Je 10 '63

JETS mails results of aptitude tests. *Chem & Eng N* 41:50-1 My 6 '63

Measuring the man. N. E. Gilmour, Jr. *Res/Develop* 14:20-2 JI '63

Psychological research; aid to engineer selection and recruitment. P. Moon. *bibliog Can Min & Met Bul* 56:142-5 F '63

ABLATION shielding. See Shielding (heat)

ABRASION

Abrasion of materials by suspended matter. H. P. Tardif and H. Marquis. *il diags Can Min & Met Bul* 55:773-82 *bibliog*(p781-2) N '62

Abrasion-reinforcement; methods of evaluation. A. E. Juve and A. G. Veith. *bibliog il diags Rubber Chem & Tech* 35:1276-307 D '62

Coating titanium for protection against abrasion and wear. C. Levy and J. B. Romolo. *il Metal Finishing* 60:61-5 O; 56-62 N '62

Correlation of laboratory abrasion testers. L. I. Weiner and C. J. Pope. *diags Textile Res J* 33:761-4 S '63

Durability of concrete in service. *diags Am Concrete Inst J* 59:1771-820 *bibliog*(p 1816-19) D '62; Discussion. 60:2071-80 pt 2 Je '63

Effect of soil on resistance to abrasion of a wool fabric. M. A. Morris and others. *Textile Res J* 33:424-31 Je '63

Experimental abrasion; frosting and defrosting of quartz grains. P. H. Kuenen and W. G. Perdok. *bibliog diag J Geol* 70:648-58, pl 1-2 N '62

Microscopical observations of abrasion phenomena in cotton. I. V. deGruy and others. *bibliog il Textile Res J* 32:873-82 N '62

Selection and performance of abrasion-resistant materials in the mining and quarrying industries. J. Lampman. *il Pit & Quarry* 55:114-17+ Mr '63

Valley abrasion tester for titanium dioxide pigments. S. S. Cole. *Tappi* 46:124-6 F '63

ABRASIVE belts

Acme abrasive belt finishing machine can handle tapered or contoured parts. *il diag Am Mach/Metalworking Manuf* 107:160 My 13 '63

Air bearings suit abrasive belt machine; Production engineering research association. *Engineering* 194:710 N 30 '62

Coated abrasives descale steel. *il diag Iron Age* 191:132-3 Ap 25 '63

Contact wheels for abrasive belts; reference book sheets. W. K. Seward. *il diags Am Mach/Metalworking Manuf* 107:63+ Ap 29; 137+ My 13 '63

ABRASIVE disks. See Grinding machines

ABRASIVE wheels. See Grinding wheels

ABRASIVES

Abrasive advances previewed. *Iron Age* 191:45 Ap 11 '63

Abrasive machining; how good is it? L. P. Tarasov. *Tool & Manuf Eng* 50:103-6 Ap '63

Abrasive machining trims milling costs. Materials in Design *Eng* 57:135-6+ Mr '63

Abrasive slurry handled by special pumps. A. F. Ziehm. *il diag Iron & Steel Eng* 40:169-70 My '63

Abrasives tumble finer finishes. R. D. Anderson. *il Iron Age* 192:76-7 S 5 '63

Denite upswing for abrasive grinding. K. W. Bennett. *il Iron Age* 191:105 My 9 '63

End face seals in abrasive service. H. Tankus. *il diags Lub Eng* 19:403-9 O '63

Engineered bond reduces cost in abrasive machining; V62. R. LeGrand. *il Am Mach/Metalworking Manuf* 107:66-8 JI 22 '63

Fine art of flat lapping; how to get maximum results on a semi-automatic machine. C. Stead. *il Am Mach/Metalworking Manuf* 107:78-80 Ag 5 '63

Glass beads as an abrasive. *il Comp Air Mag* 68:26-7 Ap '63

How to find profit in abrasive machining. J. E. Haggert and R. L. Smith. *il diags Steel* 153:126-31 S 16 '63

How to heal spike heel pocks. *il Safety Maint* 126:59-61 Ag '63

It's done with wire. R. C. Fox. *il Wire & Wire Prod* 33:656-7 My '63

New abrasive wheels brighten mullions for skyscraper. *il Mod Metals* 19:86 S '63

Quality control applications in the coated abrasives industry. R. S. Bingham, Jr. *bibliog flow sheet diags Ind Quality Control* 19:5-12 N '62

Structure and properties of vitrified bonded abrasives. W. D. Kinkery and others. *bibliog il diags Am Cer Soc Bul* 42:297-303 My '63

Wet cyclone handles hot and abrasive slurries. *il Chem Eng* 69:78+ N 26 '62

Which abrasive is best for you? E. A. Borch. *il Foundry* 91:139-40+ S '63

See also

Abrasive belts
Metal finishing

ABSENTEEISM (labor)

Absenteeism and turnover. R. C. Garnier. *Am Water Works Assn J* 55:435-40 Ap '63

Disability absences of workers after heart attacks. R. D. Ketchum. *bibliog Ind Med* 32:131-4 Ap '63

Illness-absence recording; accurate or inaccurate? J. S. Felton. *bibliog Archives Environmental Health* 5:495-504 N '62

Manpower wastage: labor turnover, absenteeism, and accidents. F. J. Gaudet. *Mech Eng* 85:38-9 Jl '63

Respiratory disease absenteeism in a large industry. M. N. Newquist. *Archives Environmental Health* 6:7-9; Discussion. 14-16 Ja '63

ABSOLUTE pitch. See Pitch (sound)

ABSOLUTE zero

Ultrasonic thermometer measures near absolute zero. *Space/Aeronautics* 39:171-4 Ja '63

ABSORPTIONS

Fouled diethanolamine solution comes clean. *diag Chem Eng* 70:40-1 Mr 4 '63

How to combine centrifugal and absorption units for low operating costs. F. F. Stevenson. *il Heating-Piping* 34:123-7 D '62

How to design centrifugal-absorption systems for low operating costs. F. F. Stevenson. *il diags Heating-Piping* 35:160-6 Ja '63

How to estimate operating costs for centrifugal-absorption systems. F. F. Stevenson. *il Heating-Piping* 35:126-30 Mr '63

Industrial absorbers: right selection and proper use can cut bill in half. S. Jaffe. *il Plant Eng* 16:146-8 N '62

ABSORPTION

Absorption of carbon dioxide by aqueous ammonia in a packed tower. G. Vassiliatos and others. *bibliog diag Can J Chem Eng* 41:7-11 F '63

Absorption of carbon dioxide by sodium hydroxide on a sieve plate. I. J. Harris and G. H. Roper. *bibliog Can J Chem Eng* 41:158-61 Ag '63

Absorption of carbon dioxide into alkaline solutions in packed towers. G. Astarita. *bibliog Ind & Eng Chem Fundamentals* 2:294-7 N '63

Carbon dioxide absorption and desorption in a packed tower using water and solutions of sodium carbonate and of triethanolamine. L. van den Berg. *bibliog diag Can J Chem Eng* 40:250-3 D '62

Comparison of geometric absorption factors with geometric mean beam lengths. J. A. Wiebelt. *diag A S M E Trans ser C* 85:287-8 Ag '63

Continuous absorption removes acid fumes. J. P. Allen and D. Cooper. *diag Chem Eng* 69:144 N 26 '62

Determination of average molar absorptivity for self-absorption of fluorescent radiation in fluorescein solution. K. K. Rohatgi and G. S. Singhal. *bibliog Anal Chem* 34:1702-6 D '62

Differential absorption of varnish by paper. E. Hsu. *bibliog J Colloid Sci* 18:41-51 Ja '63

Differential vapour absorption and moving bed chromatography. B. J. Bradley and P. F. Tiley. *diag Chem & Ind* p743-4 My 4 '63

Effective interfacial area in packed columns for absorption with chemical reaction. F. Yoshida and Y. Miura. *bibliog diag A I Ch E J* 9:331-7 My '63

Gas absorption in agitated gas-liquid contactors. F. Yoshida and Y. Miura. *Ind & Eng Chem Proc Design* 2:263-8 O '63

Gas absorption with simultaneous irreversible first-order reaction. E. N. Lightfoot. *A I Ch E J* 8:710-12 N '62

Gas absorption with zero-order chemical reaction. G. Astarita and G. Marrucci. *Ind & Eng Chem Fundamentals* 2:4-7 F '63

Gas-liquid kinetics: the absorption of carbon dioxide in diethanolamine. R. J. Nunge and W. N. Gill. *bibliog diags A I Ch E J* 9:469-74 Jl '63

Gettering properties of tantalum. E. G. Zubler. *bibliog diag Electrochem Soc J* 110:1072-5 O '63

How acid gas loadings affect physical properties of MEA solutions. J. C. Dingman. *bibliog Hydrocarbon Process & Pet Refiner* 42:189-91 S '63

Hydrocarbon gas analysis using differential chemical absorption and flame ionization detectors. W. B. Innes and others. *bibliog diags Anal Chem* 35:1198-203 Ag '63

Influence of operating and static liquid hold-ups on gas absorption rates in chemically reacting systems. R. M. Secor and R. W. Southworth. *bibliog A I Ch E J* 9:561-6 Jl '63

Low-temp absorption plant cost estimates within ten per cent. J. M. Hillsman. *Pet Management* 35:211-13 Ap '63

Oxygen absorption in low-frequency vertically vibrating liquid columns. R. H. Buchanan and others. *bibliog diag Ind & Eng Chem Proc Design* 2:173-7 Jl '63

Rate of glycerol absorption by ion exchange resins. R. P. Griffin and J. S. Dranoff. *A I Ch E J* 9:283 Mr '63

Reaction kinetics in the absorption of chlorine into aqueous media. C. W. Spalding. *bibliog diag A I Ch E J* 8:685-9 N '62

Sharper separations with this process. E. J. Hoffman. *diags Hydrocarbon Process & Pet Refiner* 42:167-72 Mr '63

Simultaneous gas absorption and liquid phase chemical reaction in an agitated vessel. G. Vassiliatos and others. *bibliog diags Can J Chem Eng* 40:210-14 O '62

Unsteady state absorption of carbon dioxide by sodium hydroxide solutions. T. R. Rehm and others. *il Chem Eng Prog* 58:52 D '62

Water absorption of elastomers. G. J. Briggs and others. *bibliog Rubber Chem & Tech* 36:621-41 Jl '63

See also

Silica gel

Sound-Absorption

ABSORPTION (physiology)

Aspirin absorption. *Drug & Cosmetic Ind* 91:384 S '62

Effect of dietary regimen on cessation of intestinal absorption of large molecules (closure) in the neonatal pig and lamb. J. G. Lecce and D. O. Morkan. *bibliog il J Nutrition* 78:263-8 N '62

Effect of D-sorbitol on the absorption and transfer of nutrients from mother to fetus. E. O. Carrasco and others. *bibliog Am J Clinical Nutrition* 11:533-6 N '62

Evidence against preferential intestinal absorption of physiologic quantities of liver-bound vitamin B₁₂ by patients with pernicious anemia. L. W. Sullivan and others. *bibliog Am J Clinical Nutrition* 11:568-73 D '62

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ACOUSTIC laboratories.

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Extrusion trends. S. M. Blumenreich. Mod Metals 19:40+ Je '63

Extrusions, castings improve design, performance of heavy-duty door closers. *il* diags Mod Metals 19:42+ Ap '63

Extrusions speed erection of U.S. fair pavilion; Australian international trade fair. *il* Mod Metals 19:72 Ag '63

Fabricating skin segments for the Saturn booster; simultaneous aging and forming. R. E. Layton. *il* diag Am Mach/Metalworking Manuf 107:67-70 My 27 '63

Forming aluminum case history; molding-in place increases boot life. *il* Light Metal Age 21:13 Je '63

Forming aluminum with urethane tooling. *il* diag Light Metal Age 20:15 F '63

Forming operations on bomb ejection racks. C. O. Herb. *il* diag Mach 69:116-21 N '62

GE reveals new lubricant for working with aluminum. Steel 152:30 Ja 28 '63

Hillman imp cylinder block. *il* diags Automobile Eng 53:454-63 O '63

How to braze aluminum. C. L. Bulow. *il* diags Mach 70:132-7 O '63

How to form and join vinyl-clad aluminum sheet. J. K. Wareham and W. M. Rogerson. bibliog *il* diags Product Eng 34:98-102 Ap 15 '63

How to solder aluminum. *il* diags Mod Metals 18:61+ D '62; 36+ Ja; 19:40+ F; 50+ Mr '63 (reprints \$1)

Hydroform improves deep draw. R. H. Eshelman. *il* *Iron Age* 191:58-9 Ja 24 '63

Hydrostatic extrusions take big step forward. *il* Mod Metals 19:86 Mr '63

Improvements in the press-forming properties of aluminum-magnesium alloy sheet by the use of a recovery anneal. J. C. Wright and others. *Inst Metals J* 91:321-4 '62-63

Improving lubricants. D. MacDonald. *il* diags Product Eng 34:88-9 F 18 '63

Integrated line cuts inventory. H. Craig. *il* Am Mach/Metalworking Manuf 107:108-9 F 18 '63

Largest impact extrusion. *il* Light Metal Age 21:24 Je '63

Low-cost process rolls sheet from pellets. *il* diag Mod Metals 19:24 Mr '63

Magnetic metal-forming; Magneform. F. L. Church. *il* diags Mod Metals 19:36+ JI '63

New lubricants for aluminum. *il* Mod Metals 19:56 F '63

New process rolls aluminum sheet from pellets. A. S. Hester. *il* Ind & Eng Chem 55: 30-1 JI '63

New technique for aluminum forgings; spin forging. S. A. Spachner. *il* Light Metal Age 20:5 F '63

On-site fabrication of giant rocket casings. flow diags Mod Metals 19:36+ F '63

One-piece curtain track. diags Mod Metals 19:63 Ag '63

Pellets rolled into aluminum sheet. diag Mach 69:121 Ag '63

Pellets to sheet in one step. R. R. Palik and W. F. Duncan. *il* Steel 152:38-42 Ad 1 '63

Press stamps holes by the acre. *il* *Iron Age* 192:69 JI 25 '63

Progress reported on hydrostatic extrusion. *il* Steel 152:65 Mr 4 '63

Reynolds rolls instant aluminum sheet. Am Mach/Metalworking Manuf 107:110 Mr 13 '63

Reynolds unveils new process for rolling aluminum sheets. *il* Steel 152:30-1 Mr 4 '63

Roll forming of aluminum speeded by high speed cutting development. *il* Light Metal Age 21:5 Ap '63

Rolling aluminum rings. D. G. Buckpitt. *il* Light Metal Age 21:8 Je '63

Screw machine troubleshooting. J. H. Den Eeger. *il* Am Mach/Metalworking Manuf 107: 71-5 S 2 '63

Self-fastening aluminum jacketing introduced. Chem & Eng N 41:48 S 9 '63

Shot-peening forms aircraft panels. B. Barnes. *il* Am Mach/Metalworking Manuf 107:116 Ad 1 '63

Tiny pellets to Al sheet in a hurry. *il* diag Eng & Min J 164:84 Ad '63

To a profitable extrusion industry. L. Starr. Light Metal Age 20:19-22 D '62; Excerpts. Mod Metals 18:46-7 Ja '63

Transfer line speeds output of complex aluminum parts. *il* *Iron Age* 191:76-7 Mr 21 '63

Turning spheres to 25 millionths. *il* Am Mach/Metalworking Manuf 107:80-1 S 2 '63

Twin tunnels in Scotland use 70 tons of aluminum sheet, 50 miles of extrusions. *il* diags Mod Metals 19:44+ S '63

See also

Aluminum—Finishing

Aluminum—Welding

Aluminum founding

ALUMINUM works

Modern aluminum plant opened in Colombia; Aluminio Alcan de Colombia, S.A. *il* Light Metal Age 20:12 D '62

Olin expands aluminum mill. Chem & Eng N 41:36 JI 15 '63

Pechiney purchases 40 per cent interest in Howe Sound. Mod Metals 18:76 N '62

User develops own aluminum sources. *il* *Iron Age* 191:103 Mr 7 '63

Costs

Predicting chemical costs in aluminum brightening. G. D. Nelson. Plating 50:651-7 JI '63

Equipment

All-aluminum equipment helps produce aluminum. *il* Mod Metals 19:90 My '63

Alroll ends breaking-in phase. Mod Metals 19:102-3 My '63

Alroll rolling reroll. *il* Mod Metals 19:50-1 JI '63

Alroll unit may be world's most powerful aluminum hot mill. *il* *Iron & Steel Eng* 40:167 JI '63

Aluminium Ltd. affiliates operate, plan fabricating plants. *il* Mod Metals 18:84 D '62

Checks on inside eliminate plumbing on outside. L. J. Bandiera. diags Hydraulics & Pneumatics 16:107 Ap '63

Consolidated to double aluminum sheet capacity. Mod Metals 19:72 F '63

Continuous casting; key to low-cost siding. H. K. Darby. *il* Mod Metals 19:38+ My '63

Design of a 4000/6000-ton plate stretcher. R. J. Elger. *il* diags Inst Metals J 92:1-5 '63-64

Howe expansion features fast foil mill. *il* Light Metal Age 21:13 Ag '63

Howe Sound beefs up rolling mill; eyes primary aluminum production. *il* Mod Metals 19:66 JI '63

Kaiser installs new ring mill at Erie, Pa. plant. *il* Mod Metals 19:86 Ag '63

New mill beefs up India's arms industry. *il* Mod Metals 19:82-3 Je '63

Olin boosts aluminum rolling mill capacity 50 per cent. *il* Mod Metals 19:84 Ag '63

Olin shows new aluminum facilities in Ohio plant. *il* Steel 153:33 JI 15 '63

ALUMINUM works—Equipment—Continued

- Pittsburgh mill doubles Scovill rolling capacity. *il Light Metal Age* 21:20 Je '63
 Rolling mill operation; all-aluminum roll coolant system. *il Light Metal Age* 21:14 Je '63
 Surface coating plant for wide strip now in operation at Birmingham works. *il diags Metallurgia* 68:15-16 Jl '63
 Vertical mill forms huge rings. *il Iron Age* 191:79 Je 6 '63

Quality control

- Eddy currents test aluminum rod quality. *il Steel* 153:85-6 Jl 29 '63

ALUMS

- Effect of alum and pH on sheet acidity. W. F. Reynolds and W. F. Linke. *bibliog Tappi* 46:410-15 Jl '63
 Emergency alum treatment of open reservoirs. W. R. Kee. *diag Am Water Works Assn J* 55:275-81 Mr '63
 Interaction of rosin with some metal ions. E. Strazdins. *bibliog Tappi* 46:432-7 Jl '63
See also
 Aluminum sulfate

AMALGAMS

- Embrittlement of alpha-brasses by liquid metals. R. B. Waterhouse and D. Grubb. *il Inst Metals J* 91:216-19 '62-63
 Extraction of lanthanons with alkali metal amalgams: counter-current process for the extraction of samarium or ytterbium. M. F. Barrett and N. E. Topp. *diag J Ap Chem* 13:7-12 Ja '63
 Investigation of the constitution of the mercury-tin system. D. F. Taylor and C. L. Burns. *bibliog diags J Res Nat Bur Stand* 67A:55-70 Ja '63
 Mercury alloy freezes at -74 F. J. T. Boag. *Materials in Design Eng* 58:105 O '63
 Radiochemical separation of bismuth by amalgam exchange. F. E. Orbe and others. *bibliog Anal Chem* 35:1436-8 S '63
See also
 Zinc amalgam

AMARYLLIDACEAE

- Biogenetic origin of the C₆-C₁ unit of lycorine. R. J. Suhadolnik and others. *bibliog Am Chem Soc J* 84:4348-9 N 20 '62
 Biogenetic-type synthesis of the amaryllidaceae alkaloid ring system. R. A. Abramovitch and S. Takahashi. *bibliog Chem & Ind* p 1039-40 Je 22 '63
 Biosynthesis in the amaryllidaceae: incorporation of 3-C¹⁴-tyrosine and phenylalanine in nerine powderill W. Wats. W. C. Wildman and others. *Am Chem Soc J* 84:4599-600 D 5 '62
In vitro alkaloid biosynthesis in the amaryllidaceae: norbelladine O-methyltransferase. H. M. Fales and others. *Am Chem Soc J* 85: 2025-6 Jl 5 '63

AMATEUR moving pictures. *See* Moving pictures. Amateur

AMATEUR radio operators. *See* Radio operators. Amateur

AMBER glass. *See* Glass. Colored

AMEBA

- Ways and waywardnesses of amoeba. M. Taylor. *bibliog il diags Am Scientist* 50:576-96 D '62

AMERICAN architecture. *See* Architecture. American

AMERICAN association for contamination control
 Annual convention. 2d. Boston. May 1-3. Heating-Piping 35:148-9 Je '63

AMERICAN association for textile technology
 Annual conference. 3d: papers presented. *Mod Textiles Mag* 44:Special ed p6-70 '63

AMERICAN association of cost engineers
 Annual meeting. San Francisco. *Eng N* 171: 15 Ag 1 '63

AMERICAN association of petroleum geologists
 American association of petroleum geologists membership directory. *Am Assn Pet Geologists Bul* 47:1-218 pt 2 Mr '63

Annual meeting. 48th. Houston. March 25-28. *Am Assn Pet Geologists Bul* 47:1452-94 Jl '63

Annual meeting. 48th. Houston. March 25-28: program and abstracts of technical papers. *Am Assn Pet Geologists Bul* 47: 346-77 F '63

AMERICAN association of physics teachers
 AAPT-AIP regional counselor program: a counselor's report. G. L. Hollingsworth. *Phys Today* 16:50-24 F '63

APS-AAPT joint meeting. New York. Jan. 23-26. *Phys Today* 16:78-80 Mr '63

Report of the president. 1962. F. Verbrugge. *Am J Phys* 31:473-4 Je '63

AMERICAN association of port authorities

- Annual meeting. 51st. Baltimore. Oct. 8-11: with abstracts of papers. *Marine Eng/Log* 77:624 N '62

AMERICAN association of railway surgeons
 Brief history. R. B. Kepner. *Ind Med* 32:349-50 S '63

AMERICAN association of state highway officials

- Annual meeting. 48th. Miami Beach. *Eng N* 169:19-20 D 13 '62
 Annual meeting. Miami Beach. Dec. 3-7. Roads & Sts 106:31+ Ja '63
 New AASHO head to fight two-front highway war. *Eng N* 169:47-8+ D 13 '62
 Regional conference on improved highway engineering productivity. Albany. *Eng N* 171:20-1 Jl 11 '63
 Special meeting of the AASHO-AGC joint cooperative committee. Chicago. Nov. 12. Roads & Sts 106:60-1 Ja '63

AMERICAN association of textile chemists and colorists

- Addresses at spring meeting. South Central section. *Am Dyestuff Rep* 52:561-4+ Jl 22 '62
 Administrative committee appointments. *Am Dyestuff Rep* 52:173-4 Mr 4 '63
 Annual convention. Atlanta. Nov. 14-17. *Textile World* 112:91-2+ D '62
 Annual convention. Boston. Oct. 30-Nov. 1; technical program and list of exhibitors. *Mod Textiles Mag* 44:53-5 O '63
 Annual convention. Boston. Oct. 30-Nov. 1; with program. list of exhibitors and abstracts of papers. *Am Dyestuff Rep* 52:780-804+ O 14 '63
 Council highlights: meeting. New York. Jan. 25. *Am Dyestuff Rep* 52:249-51 Ap 1 '63
 Council highlights. 232d meeting. New York. April 26. *Am Dyestuff Rep* 52:494-5 Je 24 '63

History of the Northern New England section. A. E. Sampson. *il Am Dyestuff Rep* 52:821-32 O 14 '63

- National convention. Atlanta. Nov. 14-17; with abstracts of papers. program. floor plan and list of exhibits. *Am Dyestuff Rep* 51:319-47. 854-60+. 1040-6 O 29. D 24 '62; *Mod Textiles Mag* 43:32+ N '62; 44:29-30+ Ja; 24+ F; 36 Mr '63
 New national headquarters. G. P. Paine. *il map plan Am Dyestuff Rep* 51:868-70 O 29 '62

President's address. E. Morrill. *Am Dyestuff Rep* 51:926-7 N 26 '62

Work to get under way soon on AATCC's new home. *map Mod Textiles Mag* 43:27 D '62

Committee on research

- Meeting. 209th. New York. Sept. 20: with text of reports. *Am Dyestuff Rep* 51:938-41 N 26 '62
 Meeting. 210th. New York. Jan. 24. *Am Dyestuff Rep* 52:337-43 Ap 29 '63
 Meeting. 211th. New York. April 25: with texts of reports. *Am Dyestuff Rep* 52: 653-8 Ag 19 '63

AMERICAN ceramic society

Annual meeting. 65th. Pittsburgh. April 28-May 2. *Am Cer Soc Bul* 42:355-77 Je '63

Annual meeting. 65th. Pittsburgh. April 28-May 2: with abstracts of papers. *Glass Ind* 44:375-9+ Jl '63

Annual meeting. 65th. Pittsburgh. April 28-May 2: with convention guide and abstracts of papers. *Cer Ind* 80:22-39. 94-7 Ap; 47-50 Je '63

Annual meeting. 65th. Pittsburgh. April 28-May 2: with program. *Am Cer Soc Bul* 42:163-5 Ap '63

Membership roster. *Am Cer Soc Bul* 42:547-89-L O '63

Pacific Coast regional meeting. 15th. Seattle. Oct. 17-19: abstracts of papers. *Glass Ind* 43:665-7 D '62

Pacific Coast regional meeting. 16th. Los Angeles. Oct. 23-25: program. *Am Cer Soc Bul* 42:510-11+ S '63

Basic science division

Annual meeting. Pittsburgh. April 29-May 1: program and abstracts of papers. *Am Cer Soc Bul* 42:187-L Ap '63

Fall meeting. Washington. Oct. 6-8: program and abstracts of papers. *Am Cer Soc Bul* 42:515-17 S '63

Ceramic-metal systems division

Annual meeting. Pittsburgh. April 29-May 1: program and abstracts of papers. *Am Cer Soc Bul* 42:205-L Ap '63

Fall meeting. French Lick. Ind. Sept. 10-13: program and abstracts of papers. *Am Cer Soc Bul* 42:458-61 Ag '63

Fall meeting. 2d. French Lick. Ind. *Cer Ind* 79:82 N '62

AMERICAN ceramic society—Continued

Design division

Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:211+ Ap '63

Electronics division

Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:215+ Ap '63
Fall meeting, Gatlinburg, Tenn. Oct. 1-4; program and abstracts of papers. Am Cer Soc Bul 42:529+ S '63

Glass division

Annual meeting, Pittsburgh, April 29-May 1; abstracts of papers. Glass Ind 44:439-40 Ag '63
Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:223+ Ap '63
Fall meeting, Bedford Springs, Pa. Oct. 9-12; program and abstracts of papers. Am Cer Soc Bul 42:522-3+ S '63

Materials and equipment division

Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:233+ Ap '63
Fall meeting, Bedford Springs, Pa. Sept. 25-28; program and abstracts of papers. Am Cer Soc Bul 42:518-19 S '63

Refractories division

Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:237+ Ap '63
Fall meeting, Bedford Springs, Pa. Oct. 3-5; program and abstracts of papers. Am Cer Soc Bul 42:512-14 S '63

Structural clay products division

Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:247+ Ap '63
Fall meeting, Denver, Colo. Sept. 18-21; program and abstracts of papers. Am Cer Soc Bul 42:462-3 Ag '63

Whiteware division

Annual meeting, Pittsburgh, April 29-May 1; program and abstracts of papers. Am Cer Soc Bul 42:253+ Ap '63
Fall meeting, Bedford Springs, Pa. Sept. 25-28; program and abstracts of papers. Am Cer Soc Bul 42:518-19 S '63

AMERICAN chemical society

ACS organization; how it works, how to use it. A. H. Emery. Chem & Eng N 41:70-4 F '63

ACS preparing exhibit for World's fair; contribution of chemists and chemical engineers to be illustrated by their role in the study of the sea. il Chem & Eng N 41:72 O 7 '63

Annual report, 1962. Chem & Eng N 41:53-75 Mr 4 '63

Arveson is ACS president-elect for 1963. Chem & Eng N 40:64 D 10 '62

Board of directors minutes, June 8, 1963 and highlights of official reports. Chem & Eng N 41:92-9 J1 29 '63

National meeting, 143d, Cincinnati, Jan. 13-18; program. Chem & Eng N 40:68-80 D 10 '62

National meeting, 144th, Los Angeles, March 31-April 5; program. Chem & Eng N 41:82-126 F 25 '63

National meeting, 145th, New York, Sept. 8-13; program. Chem & Eng N 41:54-118 Ag 5 '63

National meeting, 146th, Denver, Jan. 19-24; with program. Chem & Eng N 41:156-61 N 4 '63

Nomenclature committee steps up activity to meet needs of modern chemistry. Chem & Eng N 41:72 O 21 '63

Northwest regional meeting, 18th, Bellingham, Wash. June 17-18; program. Chem & Eng N 41:74-5+ My 13 '63

Officers, directors, councilors, and committees. Chem & Eng N 41:104-6+ F 18 '63

Officers of local sections and divisions. maps Chem & Eng N 41:66+ Mr 25 '63

Official reports from the 142d national meeting. Chem & Eng N 40:63-83 N 5 '62

Official reports, 144th national meeting, Los Angeles, March 31-April 5. Chem & Eng N 41:66-92 My 27 '63

Progress report number 36 of the committee on professional training. Chem & Eng N 41:79-84 Mr 18 '63

Reports from the Board of directors meeting Dec. 8-9, and reports of committees. Chem & Eng N 41:78-91 Ja 28 '63

W. D. Collins named chairman emeritus of the committee on analytical reagents. Anal Chem 35:sup97A F '63

Chemical abstracts service

New building slated for Chemical Abstracts. il Chem & Eng N 41:92-3 Ja 28 '63
New CAS building going up; council and board approve the \$6,797 million project. Chem & Eng N 41:134+ Ap 15 '63

Division of analytical chemistry

Meeting, Los Angeles, March 31-April 5; program. Anal Chem 35:sup44A-50A Mr '63

Division of rubber chemistry

Bylaws. Rubber Chem & Tech 35:sup xli-xx D '62

Fall meeting, Cleveland, Oct. 17-19; program. Rubber Chem & Tech 35:sup xxi-xxiii O '62

Fall meeting, New York, Sept. 11-13. Rubber World 149:100+ O '63

Joint meeting of the Divisions of rubber chemistry of the American chemical society and the Chemical institute of Canada, Toronto, May 8-10; program. Rubber Chem & Tech 36:sup xlii-xvi J1 '63

Joint meeting with CIC Division of rubber chemistry, Toronto, May 8-10. Rubber Age 93:431-4 Ja '63; Rubber World 148:71 Je '63

Meeting, 82d, Cleveland, Oct. 17-19. Rubber Age 92:275-7 N '62; Rubber World 147:79-80 N '62

Meeting, 83d, Toronto, May 8-10; program and abstracts of papers. Rubber Age 93:94-102 Ap '63; Rubber World 148:71-8 Ap '63

Meeting, 84th, New York, Sept. 11-13; program and abstracts of papers. Rubber Age 93:587-95; 94:113-16 J1, O '63; Rubber World 148:83-90 J1 '63

Officers; committees; sponsored rubber groups. Rubber Chem & Tech 35:sup lii-x O '62

AMERICAN chemical society journal (periodical)

Dr. Marshall D. Gates named JACS editor. Chem & Eng N 40:76 N 12 '62

AMERICAN concrete institute

ACI committee work. Am Concrete Inst J 60:sup 11+ Je '63

ACI '63 officers. Am Concrete Inst J 60:sup9-10+ Ap '63

Annual meeting, 59th, Atlanta, Ga. March 4-7; with abstracts of papers, and list of exhibitors. Am Concrete Inst J 60:sup3-7+ My '63

Annual meeting, 59th, Atlanta, March 4-7; with program. Am Concrete Inst J 60:sup3-5+ F '63

Annual report, 1962. Am Concrete Inst J 60:sup 1-6 Ap '63

Fall meeting, 15th, Seattle, Sept. 23-29; with abstracts of papers. Am Concrete Inst J 59:sup 12-17 N '62

Fall meeting, 16th, Toronto, Nov. 11-14; program. Am Concrete Inst J 60:sup2-3+ N '63

International service. R. C. Reese. Am Concrete Inst J 60:561-5 My '63

New numbers designate ACI technical committees. Am Concrete Inst J 60:sup 10-12 Ja '63

New technical committee chairmen and members appointed. Am Concrete Inst J 60:sup27-8+ Ap '63

AMERICAN die casting institute

Annual meeting, Chicago. Mod Metals 19:50+ O '63

Annual meeting, Chicago, Sept. 12-13. Foundry 90:129+ O '62

AMERICAN electroplaters society

AES research committee; quarterly report and summary of research projects. Plating 50:225, 514 Mr, Je '63

Annual convention, 50th, Atlantic City, June 22-28; program and abstracts of papers. Plating 50:529-37 Je '63

Annual convention, 50th, Atlantic City, June 22-28; with program and abstracts of papers. Metal Finishing 61:72-81 Je; 39-44 Ag '63

Annual convention, 50th, Atlantic City, N. J. June 23-27. Plating 50:740-50 Ag '63

Annual report. Plating 50:541-52 Je '63

Branch directory, as of Dec. 1, 1962. Plating 50:70-4 Ja '63

Constitution and bylaws; effective June 26, 1963. Plating 49:1183-7 N '62

Financial report, fiscal year, July 1, 1962-June 30, 1963. Plating 50:834-8 S '63

Tenth interim meeting AES Supreme society; Kansas City, Mo. Jan. 19; program. Plating 50:52 Ja '63

- AMERICAN foundrymens society**
Casting congress, 67th, St Louis, May 6-10; with program. Foundry 91:108-17 My '63
Castings congress, 67th, St Louis, May 6-10; with abstracts of papers. Foundry 91:54-9, 152-66 Je; 145-6+ JI '63
Five selected for American foundrymen's society awards. Foundry 91:118-19 My '63
- AMERICAN gas association**
American gas association and Pacific coast gas association annual convention, Los Angeles, Oct. 13-16; preview. Am Gas Assn Mo 45:6-9 JI Ag '63
American gas association and Pacific coast gas association annual meeting, Los Angeles, Oct. 13-16; program. Gas 39:80-2 O '63
Annual convention, 44th, Atlantic City, Oct. 7-10; with papers presented and list of officers, section leaders elected. Am Gas Assn Mo 44:2-13+ N '62
Annual meeting, 44th, Atlantic City, Oct. 7-10. Gas Age 129:22-36 N '62
Conference of the production, transmission and operating sections, Pittsburgh, May 13-17. Am Gas Assn Mo 45:24-7 Je '63
Gas Age 130:22-3 JI '63
Fifteenth annual accident prevention conference, St Louis, Sept. 10-11. Am Gas Assn Mo 45:4-5+ O '63
Research and utilization conference, Cleveland, April 16-18; program. Am Gas Assn Mo 45:6+ Mr '63
When is good not good enough? management audit of A.G.A. general fund activities. J. E. Heyke, Jr. Am Gas Assn Mo 45:2-3 O '63
- AMERICAN institute of aeronautics and astronautics**
AIAA countdown, S. P. Johnston. Astronautics & Aerospace Eng 1:122-3 F '63
Constitution and bylaws. Astronautics & Aerospace Eng 1:94-3 O '63
Electric propulsion conference, Colorado Springs, March 11-13; abstracts of papers. Astronautics & Aerospace Eng 1:89-93 Je '63
- AMERICAN institute of architects**
Alvar Aalto wins 1963 A.I.A. gold medal; awards include first presidential citation. Arch Rec 133:26 Mr '63
A.I.A. award program for 1963 honors 13 buildings. Arch Rec 133:12-15 Mr '63
AIA awards. Prog Arch 44:64 Mr '63
AIA chided on transit report. E. E. Halmos, Jr. Prog Arch 43:54 D '62
Annual convention, Miami, May 5-9. Arch Rec 133:23 My; 10+ Je '63; Eng N 170:26 My 16 '63; Arch Forum 118:5+ Je '63; Prog Arch 44:59 Je '63
Convention, 95th, Miami Beach, May 5-9; products to be exhibited; illustrations with text. Prog Arch 44:93-4+ Ap '63
Hawaii A.I.A. makes 1962 honor awards. Arch Rec 133:14-15 Ap '63
Kennedy receives citation for policies on architecture. Arch Rec 134:33 Ag '63
Western regional conferences. Arch Rec 133:26 Ja '63
- AMERICAN institute of chemical engineers**
Annual meeting, 55th, Chicago, Dec. 2-6; with program and abstracts of papers. Chem Eng Prog 58:104+ O '62
Annual meeting, 56th, Houston, Dec. 1-5; with program. Chem Eng Prog 59:104+ O '63
National meeting, 49th, New Orleans, March 11-14; with program and list of papers. Chem Eng Prog 59:94-6+ Ja; 94+ F '63
National meeting, 50th, Buffalo, May 6-8; with program. Chem Eng Prog 59:104-6+ Mr; 92+ Ap '63
National meeting, 51st, Puerto Rico, Sept. 29-Oct. 2 with program. Chem Eng Prog 59:97-100+ JI; 90-3 Ag '63
- AMERICAN institute of electrical engineers**
AIEE winter general meeting, New York, Jan. 27-Feb. 1; program. IEEE Proc 51:sup 32A+ Ja '63
AWS 44th annual meeting and AIEE electric welding conference, Philadelphia, April 21-25; program. Welding J 42:42-5 Ja '63
Fall general meeting, Chicago; with abstracts of papers. Elec World 158:53-4 D 3 '62; Elec Eng 81:986-9 D '62
IEEE's endowment in electronics from AIEE. I. S. Coggeshall. bibliog Elec Eng 82:2-20 Ja '63
Pacific energy conversion conference, San Francisco, Elec Eng 81:324-6 O '62
- AMERICAN institute of mining, metallurgical and petroleum engineers**
Annual meeting, Dallas; abstracts of papers. Eng & Min J 164:73-80 Ap '63
Annual meeting, 92d, Dallas, Feb. 24-28, Min Eng 15:62-5 Ap '63; J Metals 15:450-4 Je '63
Annual meeting, 92d, Dallas, Feb. 24-28; with program and abstracts of papers. Min Eng 14:61-6 N '62; 15:53-66 Ja '63
Annual meeting, 92d, Dallas; with abstracts of papers. Pit & Quarry 56:78-83 JI '63
Annual meeting plant trips. J Metals 15:112-15 F '63
Pittsburgh section's 17th annual off-the-record meeting, Pittsburgh, Nov. 3. J Metals 15:6-7 Ja '63
Societies name 1964 AIME officers and directors. Min Eng 15:280-1 JI '63
- Metallurgical society**
Annual meeting, 92d, Dallas, Feb. 24-28; program and abstracts of papers. J Metals 15:65-95 Ja '63
Fall meeting, Cleveland, Oct. 20-24; with program and abstracts of papers. J Metals 15:665-728 S '63
Fellows of the Metallurgical society. J Metals 15:50-1 Ja '63
Society directors. J Metals 15:322-3 Ap '63
- Society of mining engineers**
Annual fall meeting, 1st, Gatlinburg, Tenn, Sept. 10-12; with abstracts of papers. Coal Age 67:64-7 O '62
1963 membership directory. Min Eng 15:91-217 JI '63
SME fall meeting and Rocky Mountain minerals conference, Salt Lake City, Utah, Sept. 11-13; abstracts of papers. Min Eng 15:53-7 Ar; 46 S '63
- Society of petroleum engineers**
Annual fall meeting, 57th, Los Angeles, Oct. 7-10; program and abstracts of papers. J Pet Tech 14:988-90+ S '62
Annual meeting, Dallas, Feb. 24-28; abstracts of papers. J Pet Tech 15:55-6+ Ja '63
Annual meeting, 50th, New Orleans, Oct. 6-9; program of technical papers. J Pet Tech 15:606-9 Je '63
50th anniversary fall meeting, New Orleans, Oct. 6-9; with program and abstracts of papers. J Pet Tech 15:965-87 S '63
- AMERICAN institute of nutrition**
Annual meeting, 27th, Atlantic City, N.J., April 16-20; proceedings. J Nutrition 80:447-58 Ag '63
- AMERICAN institute of physics**
AAPT-AIP regional counselor program; a counselor's report. G. L. Hollingsworth. Phys Today 16:50-2+ F '63
Annual report. J Phys Today 16:39-52 My '63
New AIP handbook. D. E. Gray. Phys Today 16:40-2 JI '63
- AMERICAN institute of plant engineers**
Annual meeting, 9th, Chicago, Jan. 27. Plant Eng 17:148-9 Mr '63
Chapter activities. Plant Eng 17:140-2 F '63
National officers installed. Plant Eng 17:143-4 Ag '63
- AMERICAN institute of steel construction**
American institute of steel construction. II Pub Works 94:100-1 Ja '63
Annual engineering conference, Tulsa, Eng N 170:20-1 My '63
Nine buildings receive A.I.S.C. awards. II Arch Rec 134:14-15 S '63
Workshop-critique of awards. II plans diagrs Prog Arch 43:150-61 N '62
- AMERICAN machine tool distributors association**
Annual meeting, 38th, Detroit, Oct. 24-26. Automotive Ind 127:83+ N 15 '62
Spring meeting, 39th, White Sulphur Springs, W. Va., April 7-10. Am Mach/Metalworking Manuf 107:60 Ap 29 '63
Spring meeting, 39th, White Sulphur Springs, W. Va., April 7-10; abstracts of papers. Mach 69:142-3 My '63
- AMERICAN mining congress**
Annual meeting, New York, Dec. 3. Min Cong J 48:35-6 D '62
Coal convention, Pittsburgh, May 5-8; abstracts of papers. Coal Age 68:104-13 Je '63
Coal convention, Pittsburgh, May 5-8; program. Min Cong J 49:56-61 Mr '63
Coal convention, Pittsburgh, May 5-8; with program and abstracts of papers. Min Cong J 49:33-43 Ap; 51-64 Je '63
Coal division conference, Pittsburgh, Oct. 16; with abstracts of committee reports. Min Cong J 48:64-6 D '62
Convention, San Francisco, Sept. 24-27. Rock Prod 65:80+ N '62
Declaration of policy adopted at San Francisco, Sept. 24-27. Min Cong J 48:27-33 N '62

AMERICAN mining congress—Continued

- Meeting, Los Angeles; abstracts of papers. Eng & Min J 164:116+ O '63
- Metal mining and industrial minerals convention and exposition.** San Francisco, Sept. 23-28; with abstracts of papers. Min Cong J 43:50-64D N '62; il Eng & Min J 163:84-90 N '62; Pit & Quarry 55:90-2+ D '62
- Metal mining-industrial minerals convention.** Los Angeles, Sept. 15-18; with program. Min Cong J 49:41-53 Ag '63

AMERICAN nuclear society

- Meeting, Boston. Nuclonics 20:74+ S '62

AMERICAN oil chemists society

- Annual fall meeting, 36th, Toronto, Oct. 1-4; abstracts of papers. Soap & Chem Spec 38:47-9 N '62
- Annual fall meeting, 37th, Minneapolis, Sept. 30-Oct. 2; with program, list of exhibitors; abstracts of papers. Am Oil Chem Soc J 40:sup4+ S '63
- Annual meeting, 54th, Atlanta, April 22-24; with program, president's report and abstracts of papers. Am Oil Chem Soc J 40:sup8+ Mr; sup 10+ Ap; 6-7+ Je; sup5+ JI '63
- Annual report of the Smalley committee, 45th. Am Oil Chem Soc J 40:298-9 JI '63
- Fall meeting, 36th, Toronto; with addresses of presidents. Am Oil Chem Soc J 39:sup 4-5+ N; sup4+ D '62
- Meeting, Toronto, Oct. 1; program. Am Oil Chem Soc J 39:sup 12+ S '62
- New method for grading collaborators in the Smalley check sample series. L. A. Baumann. Am Oil Chem Soc J 40:sup 13-14+ Ag '63
- Report of the commercial fats and oils analysis committee, 1963. Am Oil Chem Soc J 40:596-602 O '63
- Report of the fat analysis committee, 1962. Am Oil Chem Soc J 39:431-4 O '62
- Report of the spectroscopy committee, 1961-62. Am Oil Chem Soc J 40:sup 14+ Mr '63

AMERICAN petroleum institute

- API readies first travel-aid program. Oil & Gas J 61:77 Mr 18 '63
- Annual meeting, 42d, Chicago, Nov. 12-14. Oil & Gas J 60:35-6 N 12; 131-52 N 19 '62
- Changing world of API. Pet Management 34:21-2 N '62
- This is your API. Oil & Gas J 60:123-38 N 12 '62
- Where is API headed? interview with F. Ikard. C. La Motte. Oil & Gas J 61:42-5 Mr 11 '63

AMERICAN pharmaceutical association

- Scientific section meeting, Miami Beach, May 12-17; abstracts of papers. Am Perfumer 78:30-3+ JI '63

AMERICAN photoengravers association

- Annual meeting, Washington, Oct. 14-17. Inland Ptr/Am Lithogr 150:94-5 N '62

AMERICAN physical society

- APS-AAPT joint meeting, New York, Jan. 23-26. Phys Today 16:78-80 Mr '63

AMERICAN potash and chemical corporation

- Kirkpatrick award for chemical engineering achievement. Chem Eng 70:46 S 30 '63

AMERICAN power conference

- Annual meeting, 25th, Chicago, March 26-28. Power Eng 67:68 F '63; Chem Eng 70:60 Ap 29 '63; Eng N 170:46-7 Ap 4 '63
- Annual meeting, 25th, Chicago, March 26-28; abstracts of papers. Combustion 34:31-8 My; 46-9 Je; 35:41-4 O '63
- Annual meeting, 25th, Chicago, March 26-28; program. Combustion 34:49-52 Mr '63; Elec Eng 82:sup30A-2A Mr '63
- Conference, Chicago, March 26-28; abstracts of papers. Elec World 159:64-7+ Ap 8 '63; Power Eng 67:34-8 My; 58-61 Je '63

AMERICAN public gas association

- Annual convention, 1st, Washington, Oct. 29-30. Gas Age 129:33-6 D '62

AMERICAN public health association

- Annual meeting, 91st, Kansas City, Nov. 11-15; preliminary program; list of exhibitors. Am J Pub Health 53:1458-1546 S '63
- Committees 1962-1963. Am J Pub Health 53:303-32 F '63
- Fellowship in the American public health association. Am J Pub Health 53:301-2 F '63
- Relationships of professional societies and industry to the American public health association. C. G. King. Am J Pub Health 53:712-16 My '63
- Report of the chairman of the executive board to the governing council 1961-1962. J. D. Porterfield. Am J Pub Health 53:97-103 Ja '63
- Report of the chairman of the technical development board to the governing council, 1961-1962. Am J Pub Health 53:291-300 F '63

AMERICAN public power association

- Annual convention 20th, Cleveland, April 30-May 2. Elec World 159:92-3 My 20 '63
- Story of APPA; locally-owned utilities association. J. P. Gallagher. il Power Eng 66:41-3 D '63

AMERICAN public works association

- Annual congress and equipment show, New Orleans. Civil Eng 32:88 N '62
- News bulletins. Published in monthly numbers of Public works

AMERICAN radio relay league

- Meeting, Portland, Sept. 1-9, program. Q S T 46:20-3 Ag '62

AMERICAN road builders association

- American road builders association. il Pub Works 94:119-20 F '63
- Annual convention, Chicago, Feb. 24-27. Pit & Quarry 55:90-2+ My '63
- Annual convention, 61st, Chicago, Eng N 170:22-3 Mr 7 '63

AMERICAN rocket society

- Annual solid propellant rocket conference, 4th, Philadelphia, Jan. 30-Feb. 1; with abstracts of papers. Astronautics & Aerospace Eng 1:97-101 Ap '63
- 32 years of ARS history. G. E. Pendray. Astronautics & Aerospace Eng 1:124-8 F '63

AMERICAN society for clinical nutrition

- Annual meeting, 3d, Atlantic City, April 27; program and abstracts of papers. Am J Clinical Nutrition 12:330-8 Ap '63

AMERICAN society for engineering education

- Annual meeting, Philadelphia. Civil Eng 33:43-4 Ag '63
- AMERICAN society for metals**
- ASM's president for 1962-63, Robert J. Raudebaugh. R. A. Kozlik. Metal Prog 83:88-9 Je '63

AMERICAN society for quality control

- Annual convention and exhibit, 17th, Chicago, May 20-22; program and list of exhibitors. Ind Quality Control 19:37-40+ My '63
- Annual report of the board of directors. Ind Quality Control 19:48-53 N '62
- Increasing significance of total quality control; president's address. A. V. Feigenbaum. Ind Quality Control 20:4-9 O '63
- Long range planning guide. L. Bass. Ind Quality Control 20:4-6 S '63
- 1963-64 organization manual. Ind Quality Control 20:21-8 O '63
- 1963-64 society officers, regional executive directors, and regional directors. Ind Quality Control 20:34-5 Ag '63

AMERICAN society for testing and materials

- ASTM committee B-8 meeting, Washington, Sept. 25-27. Plating 49:1298+ D '62
- ASTM committee D-1 on paints and related products. Ind Finishing 39:70+ D '62
- ASTM committee E-21 on space simulation organized. il Materials Res & Stand 3:579-80 JI '63
- ASTM, our heritage and our responsibilities; president's address. A. C. Webber. Materials Res & Stand 3:669-73 Ag '63
- ASTM's analytical data projects. W. Pepper, Jr. il diags Materials Res & Stand 3:646-52 Ag '63
- Annual meeting, Atlantic City. Eng N 171:30-1 JI '63
- Annual meeting, 66th, Atlantic City, June 24-28; with abstracts of papers. Pit & Quarry 56:80-3 O '63
- Annual meeting, 66th, Atlantic City, June 23-28; program and abstracts of papers. Materials Res & Stand 3:384-5+, 506-7, 653-9 My-Je, Ag '63
- Committee C-5 on carbon and graphite products organized. Materials Res & Stand 3:743-4 S '63
- Committee D-11 on rubber and rubber-like materials annual meeting, Atlantic City, N. J., June 26-28. Rubber Age 93:774-6 Ag '63
- Rubber World 148:78-80 Ag '63
- Committee D-11 on rubber and rubberlike materials meeting, Montreal, Feb. 6-8. Rubber Age 92:906-7 Mr '63
- Honors and awards presented at annual meeting luncheon. Materials Res & Stand 3:660-8 Ag '63
- New ASTM national officers elected. Materials Res & Stand 3:572-4 JI '63
- New ASTM publications. Published in monthly numbers of Materials research and standards
- 1962, year of decision and progress. Materials Res & Stand 3:41-3 Ja '63

AMERICAN society of civil engineers

- ASCE environmental engineering conference.** Atlanta, Feb. 25-28; program. Civil Eng 33:55-9 Ja '63
- ASCE philosophy of engineering unity.** Civil Eng 33:31 JI '63
- Annual meeting and structural engineering conference, San Francisco, Oct. 7-11 and Honolulu, Oct. 14-16; program. Civil Eng 33:64-73 Ag '63

AMERICAN society of civil engineers—Cont.
Annual meeting, San Francisco; with abstracts of papers, Eng N 171:19-21 O 17 '63
Century and a decade of professional stewardship, W. H. Wisely, Civil Eng 32:31 O '62

Challenging assignment; president's inaugural address, E. Friedman, Civil Eng 32:31-2 N '62

ENR's editor will head ASCE, Eng N 171:50-2 O 17 '63

Environmental engineering conference, 1st, Atlanta, Feb. 25-28, Civil Eng 33:40-5 Ap '63; Water & Sewage Works 110:185 My '63

Meeting, Milwaukee, Eng N 170:42-3 My 23 '63

Review of the Technical divisions of ASCE, E. Friedman, Civil Eng 33:52-3 Je '63

Six elected to honorary membership, Civil Eng 32:66-8 O '62

Winter conference, Atlanta, Ga.; with abstracts of papers, Eng N 170:22-3 Mr 7 '63

AMERICAN society of heating, refrigerating and air-conditioning engineers

ASHRAE officers, directors, committeemen, ASHRAE J 5:90-1 Ap; 101-2 Ag '63

Annual meeting, 70th, Milwaukee, June 24-26; program and abstracts of papers, ASHRAE J 5:56-72 Je '63

Annual meeting, 70th, Milwaukee, June 24-26; with abstracts of papers, ASHRAE J 5:50-61 Ar '63

Philadelphia chapter air conditioning seminar, 9th, ASHRAE J 5:92-3 My '63

Research year in review, W. T. Pentzer, ASHRAE J 5:46+ Je '63

Semiannual meeting and exposition, New York, Feb. 11-14; program, floor plans, and list of exhibitors, Air Cond Heat & Ven 60:153-60 Ja '63

Semiannual meeting, New York, Feb. 11-14; program and abstracts of papers, ASHRAE J 5:60-92 Ja; 50-68 Mr '63

AMERICAN society of lubrication engineers

Groundbreaking ceremonies for headquarters building, Chicago, July 23, Lub Eng 19:316-17 Ar '63

AMERICAN society of mechanical engineers

ASME elects members to grade of Fellow, Mech Eng 84:110-11 D '62; 85:91+ Ja; 101-3 F; 108 Ap; 100-1 Je; 91 Ji; 84-5 Ag '63

ASME finances, 1961-1962; 1960-1961, Mech Eng 85:110-11 Ap '63

ASME honors 20 engineers, 1962 winter annual meeting, Mech Eng 85:100-3 Ja '63

ASME officers nominated at summer annual meeting, Mech Eng 85:90-4 Ag '63

ASME '62; report from the president, C. H. Shumaker, Mech Eng 85:125-8 Ja '63

Annual meeting, New York, Nov. 25-30; abstracts of papers, Combustion 34:37-41 Ja; 41-5 F '63

Council meeting, New York, Nov. 25-26, Mech Eng 85:106-8 F '63

Council meetings, Denver, June 10, Mech Eng 85:96-9 S '63

Decisions that face ASME, C. H. Shumaker, Mech Eng 84:26-9 D '62; Discussion, 85:86 Ap '63

Dollars and sense; Society's financial situation, C. H. Shumaker, Mech Eng 85:22-4 Ja '63

Fuels today; Fuels division symposium, 1962, bibliog il Mech Eng 85:38-45 Ja; 38-45 F '63

Inside ASME, M. Barrancon, Published in monthly numbers of Mechanical Engineering International conference on production engineering research; Pittsburgh, Sept. 9-12; abstracts of papers, Am Mach/Metalworking Manuf 107:85-92 S 2 '63 (reprints 40c)

1962 winter annual meeting; papers available, Mech Eng 85:104-10 Ja '63

Petroleum mechanical engineering national conference, 18th, Tulsa, Okla., Sept. 22-25; program, Mech Eng 85:88-9 Ag '63

Regional student conference; list of papers and prizes, Mech Eng 85:100-1 O '63

Student design contest, diag Mech Eng 84:56-9 D '62

Winter annual meeting, 83d, New York, Nov. 25-30, Mech Eng 85:92-112 Ja '63; Power Eng 87:52-4 Ja '63

Winter annual meeting, Philadelphia, Nov. 17-22; with program, Mech Eng 85:90-2 S; 113-36 O '63

Woman's auxiliary winter annual meeting, New York, Nov. 25-30, Mech Eng 85:111-12 Ja '63

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Design engineering conference

National power conference

Aviation and space division

Conference, Washington, June 26-28; papers, Mech Eng 84:28-33 O; 40-5 N; 34-41 D '62; 85:30-5 Ja; 28-33 F; 48-55 Mr '63

Rubber and plastics division

Meeting, New York, Nov. 25-30; with abstracts of papers, Plastics Tech 9:52 Ja '63

Meeting, New York, Nov. 29-30; with abstracts of papers, Rubber Age 92:592-3 Ja '63; Rubber World 147:96 Ja '63

AMERICAN society of naval engineers

Joint SAE-ASNE aeronautical meeting, Washington, Naval Eng J 75:303-9 My '63; S A E J 71:116-19 Je '63

AMERICAN society of perfumers

Annual symposium, 9th; new horizons in the world of perfumery, Am Perfumer 78:33-55 Je '63

Annual symposium, 9th, New York, April 18, Soap & Chem Spec 39:287-8 My '63

AMERICAN society of sanitary engineering

Annual meeting, 56th, Little Rock, Ark, Air Cond Heat & Ven 69:95-6 N '62

AMERICAN society of tool and manufacturing engineers

Communication and education; annual report, Tool & Manuf Eng 50:109-20 My '63

Engineering conference and tool exposition, Chicago, April 29-May 3; program, list of exhibitors, products on display, Tool & Manuf Eng 50:129-75 Ap '63

Engineering conference and tool show, Chicago, April 29-May 3; program, Am Mach/Metalworking Manuf 107:135 Ap 1 '63

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Tool exposition and conference, Chicago, April 19-May 3, Steel 152:137-9 Ap 22 '63

Tool exposition and conference, Chicago, April 29-May 3; products on display, il Mach 69:119-44 Ap '63

AMERICAN standards association

Annual meeting, New York, Dec. 13, Mag of Stand 34:35-40 F '63

Electrical standards board defines policy on definitions, Mag of Stand 34:213-14 Ji '63

National conference on standards, 13th, New York, Feb. 18-20; program, Combustion 34:29 D '62

What is ASA? C. E. Hilton, Mag of Stand 33:310-12 O '62

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Why ASA? C. Ainsworth, Materials Res & Stand 3:492-3 F '63

AMERICAN telephone and telegraph company

AT&T builds a bombproof system, il Eng N 171:19 Ar 29 '63

AMERICAN textile machinery association

Annual meeting, Boston, Feb. 28, Mod Textiles Mag 44:46 Ap '63

AMERICAN water works association

Amendments to bylaws in 1962, Am Water Works Assn J 54:154-52 D '62

AWWA directory, 1963; reference edition, Am Water Works Assn J 55:1-206 pt 2 O '63

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Annual conference, 83d, Kansas City, May 19-24, Eng N 170:18-19 My 30 '63

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Annual conference, 83d, Kansas City, May 19-24; with program, list of exhibitors and abstracts of papers, Water Works Eng 116:359-62, 474-5+, 484-5+, 562-3, 640 My-4 '63

California section annual conference, 43d, Santa Monica, Oct. 24-26; program and list of exhibitors, Water & Sewage Works 109:sup7A+ O '62

Committee reports, publications, auditors report for the year ending Dec. 31, 1962; membership awards, membership growth, Am Water Works Assn J 55:496-538 Ap '63

Directory, membership list, etc., Am Water Works Assn J 54:1-259 pt 2 N '62

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Looking to AWWA's future, W. D. Hurst, Am Water Works Assn J 55:1-3 Ja '63

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Michigan section annual meeting, 23d, Lansing, Sept. 12-14. Water & Sewage Works 109:442-3 N '62
New Jersey section fall meeting, 27th, Atlantic City, Sept. 26-29. Water & Sewage Works 109:480-1 D '62
Water purification division golden anniversary. Am Water Works Assn J 55:807-12 JI '63

AMERICAN welding society

Annual meeting and welding show, Philadelphia, April 22-26; list of exhibitors. Welding Eng 48:46-7 Ap '63
Annual meeting and welding show, Philadelphia, April 22-26; program. Iron Age 191:98-100 Ap 4 '63
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Annual meeting, 44th, and welding exposition, Philadelphia, April 22-26; with program and list of exhibitors. Welding J 42:312-4 Ap '63
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Annual meeting, 44th, presidential addresses and list of officers elected. Welding J 42:504-9 Je '63
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National officers for 1963-64 nominated. Welding J 41:1131-5 D '62
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Balconies

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Clinics

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Office buildings

Park buildings

Partitions

Pavilions

Planetariums

Police stations

Prisons

Public buildings

Publishing buildings

Recreation buildings

Remodeling (architecture)

Shelters

Skis and skiing—Stations, lodges, etc.

Stadiums

Store buildings

Studios

Telephone company buildings

Tennis courts, indoor

Theaters

Vaults (architecture)

Zoological gardens—Buildings

also subdivision Architecture under names

of cities, e.g.

Boston

Detroit

Houston, Texas

Ibadan, Nigeria

Lomé, Togo

London

Mexico (city)

Milwaukee

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New York (city)

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Medical service, Industrial

Mines and mineral resources

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- Visiting engineers eye Hawaii's prestressed concrete structures. *Eng N* 171:322-3 O 24 '63

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- Until code change takes lid off building heights, such design is rare; Tokyo. R. Halloran and J. Yamaguchi. *il Eng N* 170: 38-40 My 2 '63

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- Engineer visits Mexico city; two steel-framed structures of special interest. J. B. Scalzi. *il Civil Eng* 32:46-8 D '62

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- Puerto Rico building boom spurs unusual design and erection. F. S. Merritt. *il Eng N* 169:34-6+ N 15 '62

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- Russia reassesses construction. *Eng N* 170:46 Je 20 '63
- Russian construction boom. J. K. Carr. *il diag Civil Eng* 33:39-41 Mr '63
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- Tensioned bolts retain vertical rock cut; Eichler homes, inc., of San Francisco. *il Eng N* 171:38-9 Ag 22 '63

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- Taiwan builds to aid industry. *il map Eng N* 171:72-4 Ag 8 '63

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- 81 firms make top contractor list. *Eng N* 171: 17-18 Ag 29 '63
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- BUILDING accidents**
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- Freeze-thaw cycle caused slide; unshored basement excavation killed five workmen at Prince Georges County, Md. *il Eng N* 170:19 Ja 10 '63
- Roof collapse kills workman. *Eng N* 171:51 S 19 '63
- BUILDING block design.** *See Machine tools—Unit construction*
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 Asbestos cement
 Bricks
 Cement
 Concrete, Reinforced
 Concrete blocks
 Fiber board
 Glass, Structural
 Gypsum
 Laths
 Marble
 Masonry
 Mortar
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 Plywood
 Sheet metal, Enameled
 Siding (building)
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 Straw blocks
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 Timber
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- Development house as test bed for plastics. *il Brit Plastics* 36:326-7 Je '63

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 Factories
 Floors
 Framed structures
 Gas companies—Buildings
 Gymnasiums
 High buildings
 Industrial buildings
 Insurance company buildings
 Medical buildings
 Military buildings
 Municipal buildings
 Office buildings
 Park buildings
 Public buildings
 Railroads—Buildings and structures
 Recreation buildings
 School buildings
 Sheds
 Sheet metal buildings
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 Steel buildings
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Window cleaning

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Atomic power plants

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Coal

Coal trade

Drug trade

Electric lines

Electric utilities

Electricity supply

Electronics industry

Engineering education

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Gas, Natural

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Colloid mill

Crucibles

Distillation apparatus

Evaporators

Extraction apparatus

Gases—Apparatus

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Dye analysis
Electrochemical analysis
Fluorometric analysis
Gas analysis
Indicators and test papers
Metallurgical analysis
Microanalysis
Mineralogical analysis
Phosphorimetry
Plants—Chemical analysis
Precipitation (chemistry)
Radiochemical analysis
Sampling
Spectrum analysis
Sugar analysis

also subdivision Analysis under special subjects, e.g.

Benzenesulfonates
Carbon dioxide
Flue gas
Formaldehyde
Fuel
Gasoline
Hydrocarbons
Niobium
Paper
Sewage
Steel
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Trade waste
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Copper chlorides
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 Drilling and boring (earth and rocks)
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Containers
Evaporators
Factories
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- Films
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Concrete

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Gas, Natural
Gas, Natural—Pipe lines
Geology
Hydroelectric plants
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 Bottles
 Cans
 Capsules
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 Food containers
 Hoppers
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 Package design
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Loading and unloading
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Refrigeration and refrigerating machinery

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Metals, Cold treatment of

Quenching

Shrinkage of metals

Steel, Quenching of

also subdivision Cooling under special

subjects, e.g.

Airplanes, Supersonic

Condensers

Diesel engines

Electric generators

Electric rectifiers

Electric transformers

Electronic apparatus and instruments

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- Electric service, Rural—Cooperative lines

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Corrosion resisting materials
Electrolytic corrosion
Erosion of metals
Galvanizing
Metal coating
Metal protection
Paint. Protective
Passivity
Tarnishing of metals
Water purification—Corrosion control
Water supply—Corrosiveness
also subdivision Corrosion under special subjects, e.g.
Aluminum
Automobiles
Boilers
Chemical plants
Copper
Heat exchangers
Hot water tanks
Lead
Nickel
Niobium
Oil tanks
Paper and pulp mills
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Silver
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Inclusions

See Inclusions (mineralogy and petrology)

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See also

- Aeroelasticity
Bending
Bending moment
Compressibility
Creep of materials
Deformation (mechanics)
Fatigue in metals
Friction, Internal
Hysteresis (mechanics)
Photoelasticity
Plasticity
Rheology
Strains and stresses
Torsion

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ELBOWS, Pipe. See Pipe elbows

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Fire alarms

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Clocks, Electric
Commutators
Electric alarms
Electric batteries
Electric capacitors
Electric circuit breakers
Electric coils
Electric controllers
Electric converters
Electric current limiters
Electric equipment

ELECTRIC apparatus and appliances—See also**—Continued**

Electric furnaces
Electric fuses
Electric generators
Electric industries
Electric instruments
Electric inverters
Electric lamps
Electric machinery
Electric meters
Electric motors
Electric protective apparatus
Electric rectifiers
Electric switchgear
Electric transformers
Electricity in mining
Electricity on the farm
Electromagnets
Electronic apparatus and instruments
Oscillators
Photoelectric cells
Potentiometers
Radio apparatus
Relays
Selsyn apparatus
Spark plugs
Storage batteries
Transducers
Voltage regulators

Directories

See Electric apparatus industry—Directories

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Merchandising**See also**

Electric utilities—Appliance selling

Standards**See also**

Electric standards

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Food blenders

Refrigerators

Refuse grinders, Domestic

Washing machines

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Electric utilities—Appliance selling

National electrical manufacturers association

Directories

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See also

Electric welding, Arc

ELECTRIC arc welding. See Electric welding, Arc

ELECTRIC associations**See also**

Edison electric institute

Northwest electric light and power association

Pennsylvania electric association

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See also

Electrolytic cells
Solar batteries
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Electric driving
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Airports
Apartment houses
Automobiles
Chemical plants
Coal mines and mining
Cranes, derricks, etc.
Factories
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 Electric heating elements
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See also

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Dynamometers
Electric measurements
Electrometers
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Electric currents
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Electrophysiology
Electrostatics
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Magnetic field

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 Building trades—Labor conditions
 Chemical workers
 Collective bargaining
 Efficiency. Industrial
 Employment systems
 Foremen
 Government employees
 Hygiene. Industrial
 Job satisfaction
 Labor contracts
 Labor turnover
 Medical service. Industrial
 Municipal employees
 Physical examinations
 Sick leave
 Steel workers
 Supervisory workers
 Trade secrets
 Wages
 Woman—Employment
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 Cotton mills
 Electric utilities
 Food factories
 Gas works
 Gasoline service stations
 Oil companies
 Paper and pulp mills
 Paper box factories
 Petroleum refineries
 Plumbing shops
 Printing offices
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Chemical engineers
Civil engineers
Consulting engineers
Electric engineers
Engineering ethics
Engineering societies
Engineers council for professional development
Engineers joint council
Industrial engineers
Mechanical engineers
Mining engineers
Municipal engineers
Petroleum engineers
Radio engineers
Sanitary engineers
Structural engineers
Women as engineers
also names of engineers, e.g.
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Automobile engines
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Crankshafts
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Fuel
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Rocket engines
Steam engines
Steam turbines

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Chymotrypsin
Coenzymes
Dehydrogenases
Esterases
Fumarase
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Oxidases
Papain
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Mutation (biology)
Species

EXAMINATIONS

- More and more for City and guilds of London institute examinations. Engineering 195:723 My 24 '63

See also

- Chemistry—Examinations
Engineering—Examinations

EXAMINATIONS, Physical. See Physical examinations**EXCAVATING machinery**

- Armored teeth helped handle tough ripping. il Roads & Sts 106:60-1+ Je '63
- Big rubber-tired pushers challenge the crawlers. il Roads & Sts 106:39-41+ Je '63
- Clark backhoe-loader is ready. il Eng N 169: 50 D 6 '62
- Diesel-powered wheel; excavating machine, designed around revolving cutting wheel and conveyor belt system. il Diesel Equip Supt 41:31 O '63
- Hydraulic backhoe has fast cycle. Eng N 171:53 N 7 '63
- JCB 3 excavator. il Engineering 194:449-51 O 5 '62
- Mig. metal-arc build gigantic dragline. il Welding Eng 48:60-1 O '63
- Never mind the details; just keep the dirt moving fast. il Eng N 170:36-7 Je 13 '63

EXCAVATING machinery—Continued

- Peabody starts 115-cu yd shovel. *il* *diag* Coal Age 67:28-31+ O '62
- Planning an 85-yd dragline. J. F. Wels. *il* *diags* Min Cong J 48:45-8 O '62
- Predicting excavator dynamic performance. M. A. Neslin. *diags* Min Cong J 48:58-63 D '62
- Range of hydraulic excavators. *il* Engineer 215:366 F 22 '63
- Scooper knocks out big yardage. *il* Roads & Sts 106:62 J1 '63
- Special excavating setup facilitates gypsum recovery. *il* Pit & Quarry 55:40 Je '63
- Swaged boom pendants last longer. A. F. Meger. *il* Coal Age 67:78-81 N '62
- Tractor dozers blaze trail; quarrying. R. J. Warren. *il* *diags* Rock Prod 66:84-6+ Mr '63
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- What does the customer want? A. Bain. *il* Min Cong J 49:66-8 Ap '63
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See also

Buckets
Dredges
Earthwork
Mining machinery
Road making machinery
Rock drills
Scrapers
Shoveling machines
Trenching machinery
Tunneling machines

Maintenance and repair

- Cost record system keeps earthmover in the black. *il* Roads & Sts 106:75-7+ Je '63

Manufacture

- Cleaning and painting earth-moving machinery. J. Gieser. *il* Ind Finishing 39:108-12 My '63

Models

- Small models help search for better earthmovers. *il* Roads & Sts 106:93 Mr '63

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- How to excavate a 701 foot high cut under traffic. H. K. Glidden. *il* Roads & Sts 106:38-41 J1 '63
- Spoil handling at Clyde dock project. *il* Engineer 216:439 S 13 '63
- Stability of cuts in soft soils. T. C. Kenney. *bibliog* *diags* Am Soc C E Proc 89 [SM 5 no 3647]:17-37 S '63
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- Surface grouting stabilizes cut. *il* Eng N 171:51 S 12 '63
- Tailrace improvement at the Beaumont hydro electric development; Shawinigan water and power co. C. G. Smallridge. *il* map plans *diag* Eng J 45:35-40 O '62; Discussion, 46:40-3 F '63
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See also

Ditches
Drilling and boring (earth and rocks)
Excavating machinery
Shoring and underpinning
Subways—Construction
Trenches
Tunnel shields
Tunnels and tunneling

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Dredging
Blasting, Subaqueous
Tunnels and tunneling, Subaqueous

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- EXHIBITION grounds**

Lighting

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- Agricultural machinery
- Air conditioning equipment
- Atomic power
- Automobiles
- Chemical industries
- Construction equipment
- Electronic apparatus and instruments
- Foundry machinery
- Furniture

Gas industry

Heating equipment

Household products

Machine tools

Machinery

Mechanical handling

Motor buses

Motor cycles

Motor trucks

Motor vehicles

Office appliances

Packaging

Petroleum industry and trade

Physical apparatus and instruments

Radio apparatus

Road making machinery

Television apparatus

Textile machinery

EXHIBITS

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- Petroleum industry and trade—Exhibits
- EXOTHERMIC reactions.** See Chemical reaction

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- Inflammable mixtures
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- Mine fires
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Detonation
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Retina
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Automobile factories
Brick works
Carpet factories
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Chemical plants
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FLORIDA

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See also

- Boundary layer
- Couette flow
- Drops
- Equation of state
- Flow meters
- Gas flow
- Hydraulic engineering
- Hydraulics
- Hydrodynamics
- Jets
- Liquids
- Nozzles
- Permeability
- Solution (chemistry)
- Turbulence
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Fluorometric analysis

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FLUORIDATION of water. See Water supply—Fluorine content

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Calcium fluoride

Chlorine fluorides

Fluorspar

Lithium fluoride

Magnesium fluoride

Manganese fluorides

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Perchloryl fluoride

Phosphonitrile fluoride

Potassium fluorides

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Water supply—Fluorine content

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Bulkheads

Dams—Foundations

Piles and pile driving

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Air conditioning

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One way to stress importance of the job. *il Foundry* 91:126+ JI '63

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- Crucibles
- Cupola furnaces
- Electric furnaces, Iron founding
- Foundry equipment manufacturers association
- Foundry ladles
- Foundry machinery
- Furnaces, Iron founding
- Grinding machines
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- Molding machines

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- Foundries—Employees
- Foundry practice
- Pattern storage

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 Bronze founding
 Cast iron
 Castings—Cleaning
 Copper founding
 Cores
 Cupola furnaces
 Die casting
 Electric furnaces. **Iron founding**
 Foundry machinery
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Patents

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- FOUNDRY workers.** See Foundries—Employees
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FRANCE

See also subdivision France under special subjects, e.g.

Aeronautics, Military
Airplane industry and trade
Atomic power plants
Automobile industry and trade
Bridges
Chemical education
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Electric plants (central stations)
Electricity supply
Food industry and trade
Gas, Natural
Gypsum mines and mining
Hydroelectric plants
Iron industry and trade
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Radio broadcasting
Railroads
Railroads—Electrification
Shipbuilding
Steel industry and trade
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Tin mines and mining

Industries and resources

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also subdivision Fuel under special subjects, e.g.

Airplane engines
 Automobile engines
 Blast furnaces
 Diesel engines
 Electric plants (central stations)
 Gas turbines
 Gas turbines, Aircraft
 Motor boat engines, Outboard
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- Electric furnaces, Foundry
- Furnaces, Iron founding

Firing

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Cupola furnaces
 Electric furnaces, Iron founding

FURNACES, Laboratory

See also

Electric furnaces, Laboratory

FURNACES, Metallurgical

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Gas, Natural
Gas analysis
Helium
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Inflammable mixtures
Ionization, Gaseous
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Moving picture industry
Petroleum
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Petroleum pipe lines
Plastic industries
Rock products industry
Steel industry and trade
Technical education
Telephone
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Airplane industry and trade
Atomic power plants
Atomic research
Automobile industry and trade
Bridges
Building
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Chemical industries
Coal mines and mining
Coal trade
Colleges and universities
Electric apparatus industry
Electric industries
Electric lines
Electric railroads
Electricity supply
Electronics industry
Engineering
Engineering education
Engineers
Gas, Natural—Pipe lines
Gas industry
Highway transportation
Housing
Hydroelectric plants
Income tax
Iron industry and trade
Labor laws and regulations
Lead mines and mining
Machine tool industry
Machinery industry
Merchant marine
Moving picture industry
Office equipment industry
Petroleum industry and trade
Petroleum products pipe lines

GREAT BRITAIN—See also—Continued

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Plastics industries
Radio broadcasting
Radio communications
Railroads
Railroads—Electrification
Roads
Rock products industry
Sewerage
Shipbuilding
Shipping
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Chimneys

Electric heaters

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Fireplaces

Fuel

Gas heaters

Gas heating

Heat pump

Heating. Warm air

Heating from central stations

Hot water heating

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Oil burners

Oil heaters

Refractory materials

Solar heating

Steam heating

Ventilation

also subdivision Heating and ventilation under special subjects. e.g.

Air raid shelters

Airplanes

Apartment houses

Atomic research laboratories

Automobiles

College buildings

Factories

Foundries

Garages

Greenhouses

Hospitals

Laboratories

Library buildings

Machine works

Motels

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Cations
Counters (electrons, ions, etc.)
Dissociation
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Electrons
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Ionization, Electrolytic
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 - Petroleum pipe lines
 - Petroleum products pipe lines
 - Water supply

IRAQ

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Coal mines and mining
Engineering
Gas, Natural
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Sports, Lighting for

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Daylight

Electric lamps

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Glare

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Office lighting

Photography of lighting

Photometry

Sports, Lighting for

Street lighting

also subdivision Lighting under special subjects, e.g.

Aeronautic instruments

Airplanes

Airport buildings

Airports

Auditoriums

Bakers and bakeries

Ballrooms

Bank buildings

Bowling alleys

Bridges

Capitols

Churches

College buildings

Electric plants (central stations)

Factories

Gardens

Garment factories

Gasoline plants

Golf links

Gymnasiums

Hospitals

Hydroelectric plants

Indianapolis

Kitchens

Laboratories

Library buildings

Lobbies (architecture)

Machine shops

Marinas

Mens stores

Microscope and microscopy

Motor bus lines—Terminals

Moving picture photography

Moving picture studios

Opticians offices

Paint shops

Paper and pulp mills

Photography

Printing offices

Public buildings

Roads

LIGHTING—See also—Continued

School buildings
Show windows
Signs
Skating rinks
Stadiums
Store buildings
Supermarkets
Swimming pools
Synagogues
Telephone company buildings
Television studios
Tennis courts, indoor
Textile mills
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Agstone made from waste fines; at New York crushed stone-asphalt operation, W. E. Trauffer, *il* Pit & Quarry 55:139-40+ Ja '63

For highways to hayfields, lime producers fill needs, A. Swenson, *il* *diags* Rock Prod 66:92+ Jl '63

Georgia agstone plant also makes variety of special products, W. E. Trauffer, *il* Pit & Quarry 55:157-9 My '63

Iowa limestone producers step up sales with soil tests, *il* Rock Prod 66:68+ Jl '63

Kansas agstone producer also meets Missouri specifications; Cullor limestone co. W. E. Trauffer, *il* Pit & Quarry 55:134-8 My '63

Missouri producer mines and quarries for agstone, concrete rock, and surfacing stone, W. E. Trauffer, *il* Pit & Quarry 55:84-5+ Ag '63

Missouri stone producer overcomes many handicaps; Bailey limestone co. W. E. Trauffer, *il* Pit & Quarry 55:109-11 Mr '63

Sell lime and other rock products fertilizers more intelligently, N. C. Rockwood, *Rock Prod* 66:20+ Jl '63

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Waukesha swells into limestone supermarket, A. Swenson, *il* *diag* Rock Prod 66:80+ Ag '63

Advertising

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LIME association, National. See National lime association

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Let's set the lime statistics record straight, R. S. Boynton, *Rock Prod* 66:82+ Jl '63

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Grate-kiln systems for the production of lime, F. I. Kohanowski, *il* *diags* Pit & Quarry 55:143-7 My '63

New lime recovery operation part of paper mill expansion, E. C. Herod, *il* Pit & Quarry 55:104-7+ Ag '63

Standard Lime and Cement; Ohio plant takes place among industry leaders, B. C. Herod, *flow chart il* *diags* Pit & Quarry 55:108-16+ My '63

Union Carbide Metals vertical lime kiln, J. E. Roberts, *il* *diags* Chem Eng Prog 59:88-91 O '63

Use of FluoSolid kilns increasing; burns limestone directly to lime, permits low-temperature calcination of limestone without formation of silicates, *diag* Chem & Eng N 41:56-7 O 21 '63

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Kennecott adds unique lime plant to Hayden reduction works, J. B. Huttli, *flowsheet il* *diags* Eng & Min J 163:94-6+ N '62

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For highways to hayfields, lime producers fill needs, A. Swenson, *il* *diags* Rock Prod 66:92+ Jl '63

Georgia agstone plant also makes variety of special products, W. E. Trauffer, *il* Pit & Quarry 55:157-9 My '63

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also subdivision Lubrication under special subjects, e.g.
Air compressors
Airplane engines
Automobile engines
Automobiles
Bearings
Bearings, Ball
Bearings, Roller
Compressors
Conveying machinery
Diesel engines
Diesel engines, Marine
Gas compressors
Gas turbines, Aircraft
Gearing
Locomotives
Machine tools
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Industrial management

Inspection

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Quality control

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Arbors and mandrels

Assembling methods

Bending

Broaching

Centering (machine work)

Chucks

Dies

Drafting room practice

Drilling and boring (metal working, etc.)

Forming

Foundry practice

Gages

Grinding

Grinding machines

Grooving

Hard facing

Indexing (machine work)

Inspection

MACHINE shop practice—See also—Continued

Lapping
Lathes
Machine tools
Machinery
Metal cutting
Milling
Pattern making
Riveting
Sheet metal work
Stamping
Steel works
Tolerance
Turning
Welding

also subdivision Manufacture under special subjects, e.g.
Automobile engines
Bearings
Bearings, Roller
Cams
Carburetors
Crankshafts
Cylinders (engines, etc.)
Diesel engines
Electric motors
Gas turbines, Aircraft
Gearing
Guided missiles
Keys and keyways (machinery)
Motor trucks
Motor trucks, Industrial
Pistons
Rockets
Rolls (rolling mills)
Shafts
Space vehicles
Springs (mechanism)
Trailers

MACHINE shops

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Simple signal method hikes productivity 10 per cent in Japan; Chugai Ro Kogyo Kaisha Ltd, il Steel 152:50-1 Ap 29 '63
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Layout

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MACHINE work

See also

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Broaching
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Grinding
Holding devices (machine work)
Indexing (machine work)
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Machine shop practice
Plastics—Cutting
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Integration

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- Brass
- Copper
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Electrodeposition of metals
Electrons—Emission from metals
Etching (metals)
Fatigue in metals
Films, Metallic
Gallium
Geology
Germanium
Glass—Joining to metal
Gold
Hardness
Heat treatment
Intermetallic compounds
Iron
Lead
Lithium
Manganese
Metallography
Mineralogy
Mines and mineral resources
Molybdenum
Nickel
Niobium
Palladium
Passivity
Pickling (metals)
Plastics—Joining to metal
Platinum
Precious metals
Printing on metal
Rare earth metals
Rubber, Artificial—Joining to metal
Ruthenium
Sheet metal
Silver
Soap, Metallic
Sodium
Solder and soldering
Steel
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Atlanta
Boston
Detroit
New York (city)
Pittsburgh

MEXICANIN A. See Lactones**MEXICO**

See also subdivision Mexico under special subjects, e.g.

Aluminum industry and trade
Gas, Natural—Pipe lines
Geology
Hydroelectric plants
Iron industry and trade
Iron mines and mining
Mines and mineral resources
Silver mines and mining
Steel industry and trade
Steel works

MEXICO (city)

See also
Building—Mexico (city)
Housing—Mexico (city)

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Atomic power plants
Copper mines and mining
Gas, Natural

Geology
Mines and mineral resources

Petroleum
Petroleum industry and trade

Roads
Water supply

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Airplanes—Model testing
Architectural models
Bridges—Model testing
Chemical models
Hydraulic models
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Mechanical models

Mine models

Ship models

Structural engineering—Model testing
also subdivision Models under special subjects, e.g.

Atoms

Crystallography

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- Dampness in buildings
- Evaporation
- Humidity
- Hygrometers
- Soil moisture
- Water vapor

also subdivision Moisture content under special subjects, e.g.

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- Nylon—Molding
- Plastics
- Resinous products

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Gearing, Plastic

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- Nylon—Molding
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Maintenance and repair

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Mildew
Myxomycetes
Penicillium

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Sand. Foundry

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See also subdivision Nevada under special subjects, e.g.

- Copper mines and mining
- Gas. Natural
- Gas. Natural—Pipe lines
- Geology
- Gold mines and mining
- Mines and mineral resources
- Paleontology
- Petroleum industry and trade

NEW BRUNSWICK

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- Coal mines and mining—New Brunswick
- Hydroelectric plants—New Brunswick

NEW ENGLAND

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- Atomic power plants—New England
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NEW GUINEA

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- Architecture. Domestic
- Atomic power plants
- Geology
- Hydroelectric plants
- Mines and mineral resources
- Petroleum
- Roads

NEW MEXICO

See also subdivision New Mexico under special subjects, e.g.

- Coal mines and mining
- Copper mines and mining
- Gas. Natural
- Geology
- Mines and mineral resources
- Paleobotany
- Petroleum
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- Electricity supply—New York (city)
- Gas. Natural—New York (city). Supply to
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NEW YORK (state)

See also subdivision New York (state) under special subjects, e.g.

Architecture
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Forests and forestry
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Insurance, Health
Mines and mineral resources
Petroleum industry and trade
Petroleum pipe lines
Roads
Sewerage
Shipping
Water supply

NEW YORK state association of electrical contractors and dealers

Annual meeting, 64th, Lake Placid, N.Y.
June 30-July 3. Elec Constr & Maint 62:121
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NEW YORK stock exchange

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NEW ZEALAND

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special subjects, e.g.

Bridges
Chemical industries
Chemical research
Electricity supply
Petroleum

NEWBURGH-BEACON bridge. See Hudson River bridges**NEWCASTLE disease**

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Geology—Newfoundland

NEWSPAPER offices

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Equipment

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Materials handling ideas; speed paper hand-
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Surge tank and manifolds speed newspaper
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New York (city)—Newspapers

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NICARAGUA

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Ear—Protection

Radar—Interference

Radio communication—Interference

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Silencers

Soundproofing

also subdivision Noise under special subjects, e.g.

Air compressors

Air conditioning equipment

Airplanes

NOISE—See also—*Continued*

Airplanes, Jet propelled
 Amplifiers
 Amplifiers, Transistor
 Amplifiers, Vacuum tube
 Automobile engines
 Automobiles
 Boiler plants
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 Crystal diodes
 Electric fans
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 Guided missiles
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Digesters (paper making)
Drilling and boring machinery
Electric welding machines
Extrusion machines
Forging machinery
Glass machinery
Hydraulic presses
Knitting machines
Lathes
Machine tools
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 Mineral oils
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 Gas, Natural
 Gas, Natural—Pipe lines
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Kerr effect
Lenses
Light
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Photoelasticity
Photometry
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- Crushing machinery
- Flotation process
- Gold metallurgy
- Hydrometallurgy
- International mineral processing congress
- Iron metallurgy
- Leaching
- Metallurgical plants
- Metallurgy
- Sintering
- Smelting
- Tailings

OREGON

See also subdivision Oregon under special subjects, e.g.

- Geology
- Hydroelectric plants
- Paleogeography
- Petroleum
- Sewerage

ORES

See also

- Arsenopyrite
- Geology
- Manganese ores
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Efficiency. Industrial

Engineering departments

Industrial management

Maintenance departments

Research departments

Safety organization

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- Food packages
- Fruit—Prepackaging
- Packaging machinery
- Soap packages

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See also

Filling machines

Sealing machines

Wrapping machines

Control

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Aluminum foil
Cellophane
Paper, Waxed
Paper board
Plastic films

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Seals
Stuffing boxes

PACKING for shipment

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- Integrated station type line makes better paint pails faster. R. E. Miller. *il diags Mach* 69:122-5 N '62

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PAINT handling

- We keep our system simple; Samuel Cabot inc. A. H. Hermann. *il diags Mod Materials Handling* 18:62-5 S '63

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- Analyze that lost sale. H. Herman. *Ind Finishing* 39:56-8 My '63
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- Automobiles
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Gas distribution
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Pipe elbows
Pipe fittings
Pipe joints
Pipe laying
Pipe lines
Piping (power plants)
Plumbing
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Steam pipes
Tubes
Water pipes

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- Water pipes, Cast iron

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- Water pipes, Concrete

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- Molded products

- Molding

- Molding machines (for plastics)

- Plastic coating

- Plasticizers

- Resinous products

- Saran

- Thermoplastics

- Tools. Plastic

- Urethans

- also subdivision Plastics under special subjects, e.g.

- Airplanes—Materials

- Automobiles—Materials

- Building materials

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Molding machines (for plastics)
Printing presses
Punching machinery

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- Foundry management
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- Hosiery mills
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Black body
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Cosmic rays
Diffraction
Gamma rays
Glass, Effect of radiation on
Heat
Heat radiation
Infrared rays
Irradiation
Light

Metals—Radiation effect

- Mössbauer effect
Radiation sterilization
Radioactivity
Radiochemistry
Rayleigh radiation
Relativity (physics)
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Inventories

Invoices

Microfilm records

Production control

Punched card system

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Accidents. Industrial

Contractors

Employment management

Factories

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ROOF gutters. See Gutters (roof)

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- Marion, Ohio
- Milwaukee
- Montecito, California
- New Orleans
- New York (city)
- Omaha, Nebraska
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Cylinders
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Metal drawing
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Pipes
Presses
Punching
Rolling mills
Sheet metal, Enameled
Shells (metal work)
Stamping
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Cristobalite
Opal
Quartz
Quartzite

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Allanite
Andalusite
Beryl
Calcium silicates
Carbonatites
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Glass
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Mica
Mullite
Natrolite
Pegmatites
Pumice
Pyroxene
Serpentine
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Helicopters
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Spectrum analysis
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Hydrochloric acid
Hydrogen
Metals
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Oxygen
Ruby
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Spectrum, Microwave—Absorption spectra
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 Boilers
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Oil storage

Pattern storage

Racks

Shelving. Steel

Shelf systems

Warehousing

Water storage

also subdivision Storage under special subjects, e.g.

Apples

Chemicals

Ethylene. Liquid

Food

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Fruit

Gas. Natural

Hydrogen peroxide

Liquefied petroleum gas

Machinery

Paint

Paper

Potatoes

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STORAGE batteries

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 Department stores
 Shopping centers

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 Electric utilities—Store systems

- Inventories
 Receiving departments
 Repair parts
 Storage
 Tool rooms

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 Hurricanes
 Tornadoes

STOVES

- See also*
 Electronic stoves
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- STOVES, Electric.** *See Electric stoves*

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Creep of metals
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Hysteresis (mechanics)
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Metals—Failure
Notched bar testing
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Saint Venant principle
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Snow removal

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London

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Deformation (mechanics)
 Elasticity
 Factor of safety
 Fatigue in metals
 Hardness
 Impact
 Metals—Failure
 Stiffness
 Strains and stresses
 Structures. Theory of
 Tensile strength
 Torsion

also subdivision Strength under special

subjects, e.g.

Cast iron

Cement

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Glass

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Steel

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also subdivision Testing under special subjects, e.g.

Aeronautic instruments

Airplane engines

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Brazing

Cams

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Ceramic materials

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Corrosion and anti-corrosives

Corrosion resisting materials

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Drying apparatus

Electric apparatus and appliances

Electric cables

Electric equipment

Electric generators

Electric lamps, Mercury vapor

Electric lines

Electric transformers

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Gages

Gas turbines, Aircraft

Gasoline

Glass

Guided missiles

Hardness

Hydraulic machinery

Hydrofoils

Internal combustion engines

Joints

Jute

Lubricating greases

Materials

Metal protection

Metals

Milk

Mortar

Nickel

Nuclear reactors

Paint

Paper

Petroleum products

Pipes, Steel

Plastics

Polyethylene

Refractory materials

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Rubber, Artificial

Steam turbines, Marine

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Textile fibers, Synthetic
also subdivision Chemistry under special subjects, e.g.

Cotton

Dyes and dyeing

Wool

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Luster
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Nylon fabrics
Pile fabrics
Rayon
Rayon fabrics
Rubberized fabrics
Shirting
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Food factories
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Metallurgical plants
Packing houses
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 Mine ventilation
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 Airplanes
 Apartment houses
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 College buildings
 Factories

VENTILATION—See also—*Continued*

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See also

Geology—Victoria Land, Antarctica
Lakes—Victoria Land, Antarctica**VIDEO tape recording.** See Television broadcasting—Program recording**VIDICON.** See Television cameras**VIKANE fumigant.** See Sulfuryl fluoride**VINCA**Gathering periwinkle for medicinals. W. A. Meer. *Il Drug & Cosmetic Ind* 93:158-60+ Ag '63New alkaloids of vinca minor L. D. Zachystalová and others. *bibliog Chem & Ind* 65:10-11 Ap 13 '63Oncovine, antineoplastic agent. *Drug & Cosmetic Ind* 93:231-2 Ag '63**VINCINE.** See Alkaloids**VINEGAR**Historic and modern aspects of vinegar making (acetic fermentation). E. Mayer. *Il diag Food Tech* 17:582-4 My '63**VINYL acetate**Binders for nonwoven fabrics. R. L. Adelman and others. *bibliog Ind & Eng Chem Product Res & Develop* 2:108-13 Je '63Dynamic compressibility of poly(vinyl acetate) and its relation to free volume. J. E. McKinney and H. V. Belcher. *bibliog J Res Nat Bur Stand* 67A:43-63 Ja '63Monsanto expands at Texas City. *Oil & Gas J* 60:145 D 31 '62Vinyl acetate poised for bigger things. *Il Can Chem Process* 47:69-71 S '63**Analysis**Gas chromatographic analysis of poly(ethylene ethyl acrylate) and poly(ethylene vinyl acetate). pyrolyzates. E. M. Barrall, 2d and others. *bibliog Anal Chem* 35:73-6 Ja '63**VINYL alcohol**Chemistry and technology of some drying oil fatty acid esters of polyvinyl alcohol. A. E. Rheineck and others. *bibliog flow diag Am Oil Chem Soc J* 39:450-7 O '62Polyvinyl alcohol as a pigment binder. R. H. Beeman and B. A. Beardwood. *bibliog Il Tappi* 46:135-41 F '63PVA film makes water soluble laundry bag. *Il Mod Plastics* 40:38 J1 '63Properties of materials; polyvinyl chloride and copolymers, polyvinyl alcohol, butyral and formal; tables. *Materials in Design Eng* 58:222-3 Mid-O '63**VINYL chloride**Acres of vinyl film line water storage facilities. *Il Plastics World* 21:9 J1 '63Assessment of the impact resistance of rigid PVC pipe. J. M. Cann. *bibliog Il diags Brit Plastics* 36:516-21, 579-82 S-O '63Bottles from PVC sheet. *Il Plastics World* 21:12 Ap '63Cast vinyl foam cell structure. R. A. Park. *Il Rubber Age* 94:104-10 O '63Compounding of low density vinyl foams. L. I. Nass. *bibliog Il Mod Plastics* 40:151-2+ Mr; 127-8+ Ap '63Cooling towers go compact; use of high impact polystyrene and polyvinyl chloride. *Il diag Mod Plastics* 40:98-9 My '63Dependence of the strain resistance of flexible PVC on plasticizer formulation. S. H. Pinner and B. H. Massey. *bibliog Brit Plastics* 36:574-8 O '63Dewey and Almy pushes saran latexes. *Il Chem & Eng N* 41:108-9 Ap 15 '63Dyeing polyvinyl chloride fibers and their blends with spun viscose. H. Schenk. *Am Dyestuff Rep* 52:557-8 J1 22 '6311 per cent more plastics used in building; vinyls hold top place. *Il Chem & Eng N* 41:17-18 Ag 26 '63Frictional properties of polyvinyl chloride. C. L. Sieglauff and M. E. Kucsmas. *J Ap Phys* 34:342-7 F '63Graded temperature gel block for evaluation of PVC plastisols. A. Wheeler and B. V. Clifton. *diags Brit Plastics* 35:640-1 D '62Guide to clear sheet forming. W. A. Neitzert. *Il diags Mod Plastics* 40:140-3 Mr '63High temperature rigid vinyl. J. H. Olin. *Ind & Eng Chem* 55:124+ Je '63House siding extruded of rigid polyvinyl chloride. *Il Mod Plastics* 40:111 N '62How to control properties of PVC; fillers and plasticizers. W. J. Frissell. *Plastics Tech* 8:32-5 D '62How to dry-blend PVC for fluidized bed. A. I. Renkis. *Plastics Tech* 8:33-6 O '62How to make a concrete ground storage tank seepage-proof. E. C. Harvey. *Il Water Works Eng* 116:804-6 O '63Injection moulding of unplasticized PVC compounds. B. Grieff and G. C. Portingell. *Il Brit Plastics* 36:319-25 Je '63Markets for PVC film. *Il Brit Plastics* 35:548-53 N '62Markets for PVC protective clothing. *Il Brit Plastics* 36:166-71 Ap '63Melt extrusion properties of rigid PVC. G. H. Burke and G. C. Portingell. *Il diags Brit Plastics* 36:196-205, 254-8 Ap-May '63Melt limitations of short barreled extruders in PVC processing. J. D. W. Riley. *Wire & Wire Prod* 37:1767-91 D '62New reactive plasticizer for PVC. *Il Plastics Tech* 9:11-12 J1 '63Now you can injection mold rigid PVC with the screw machine. L. L. Scheiner. *Il Plastics Tech* 9:32-6 S '63Pink staining in polyvinyl chloride; nature, cause and how to deal with it. C. C. Yeager. *Il Plastics World* 20:14-15 D '62Plasticizers for use at extremes of temperature. H. C. Murfitt. *Brit Plastics* 35:510-15 O '62Plastics 1962. *Mod Plastics* 40:94-7+ Ja '63
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Artesian wells

Filters and filtration

Filtration plants

Fire service (water supply)

Hot water supply

Pumping stations

Reservoirs

Water, underground

Water conservation

Water consumption

Water distribution

Water purification

Water storage

Water supply engineering

Water tanks

Watersheds

Waterworks

Wells

also subdivision Water supply under

names of places, e.g.

Alderwood Manor, Washington

Austin, Texas

Buckeye, Arizona

Burley, Idaho

Carmichael, California

Chicago

Coronado, California

Dallas

Detroit

Devils Lake, North Dakota

Dortmund, Germany

El Dorado Hills, California

Elgin, Illinois

Elmore, Ohio

Fairbury, Nebraska

Fairfax, Virginia

Grand Rapids, Michigan

Greeley, Colorado

Highland Park, Illinois

Kansas City, Missouri

Lima, Ohio

London

Los Angeles

Louisville, Kentucky

Lowell, Massachusetts

Manchester, England

Mexico (city)

Miami, Florida

Millville, Pennsylvania

Milwaukee

WATER supply—See also—*Continued*

Muskegon, Michigan
 Nebraska City, Nebraska
 New Haven, Connecticut
 Oakland, Maryland
 Oklahoma City
 Oshkosh, Wisconsin
 Penfield, New York
 Philadelphia
 Pomona, California
 Portland, Oregon
 Puyallup, Washington
 Rawlins, Wyoming
 Richfield, Minnesota
 Rio de Janeiro
 San Antonio, Texas
 San Diego
 San Francisco
 Seattle
 Stamford, Connecticut
 Tampa, Florida
 Taylorville, Illinois
 Tierra Verde City, Florida
 Tokyo
 Tonawanda, New York
 Topeka, Kansas
 Troy, New York
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- Aqueducts**
Hydraulic engineering
Irrigation
Irrigation water
Pipe laying
Pumping stations
Ranney water collectors
Reservoirs
Water distribution
Water hammer
Water storage
Waterworks
Wells

Study and teaching

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